DENON

AV SURROUND RECEIVER

AVR-4806

OPERATING INSTRUCTIONS

■ SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

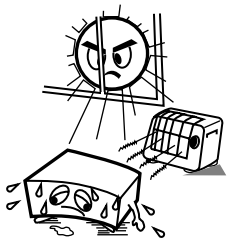
FCC INFORMATION (For US customers)

1. PRODUCT
This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

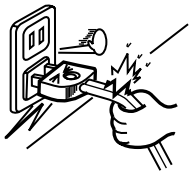
2. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT
This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modification not expressly approved by DENON may void your authority, granted by the FCC, to use the product.

3. NOTE
This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the local retailer authorized to distribute this type of product or an experienced radio/TV technician for help.

■ NOTE ON USE / OBSERVATIONS RELATIVES A L'UTILISATION

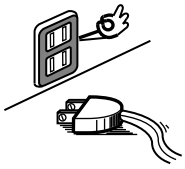


- Avoid high temperatures.
  Allow for sufficient heat dispersion when installed on a rack.
- Eviter des températures élevées.
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.

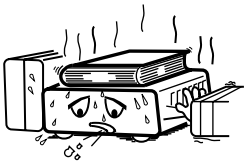


- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.

- Keep the set free from moisture, water, and dust.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.

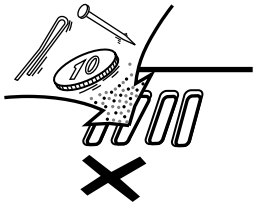


- Unplug the power cord when not using the set for long periods of time.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.



* (For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Ne pas obstruer les trous d'aération.

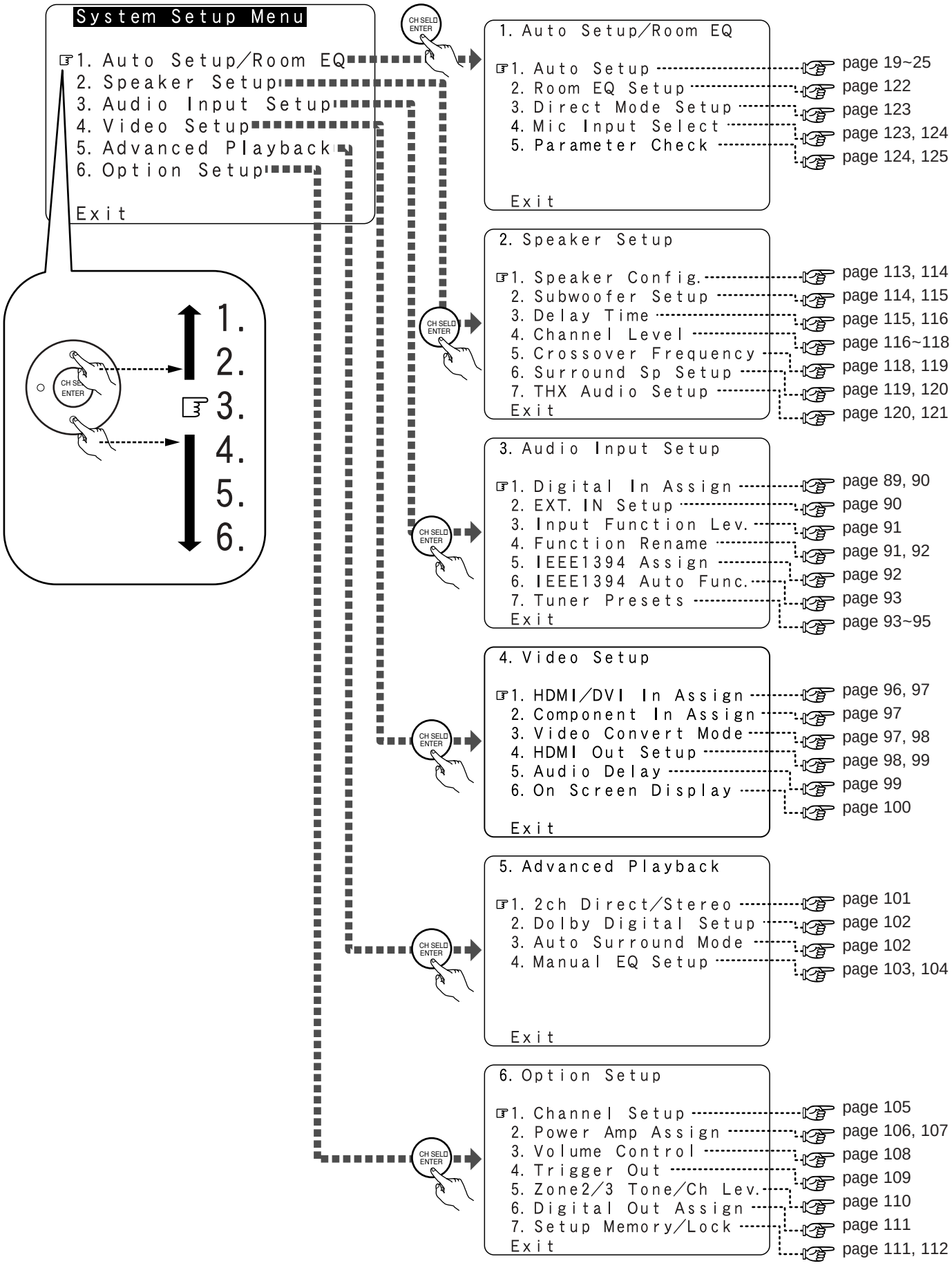


- Do not let foreign objects in the set.
- Ne pas laisser des objets étrangers dans l'appareil.

- Do not let insecticides, benzene, and thinner come in contact with the set.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.

- Never disassemble or modify the set in any way.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.

■ System Setup Menu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2. Speaker Setup
3. Audio Input Setup
4. Video Setup
5. Advanced Playback
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Exit
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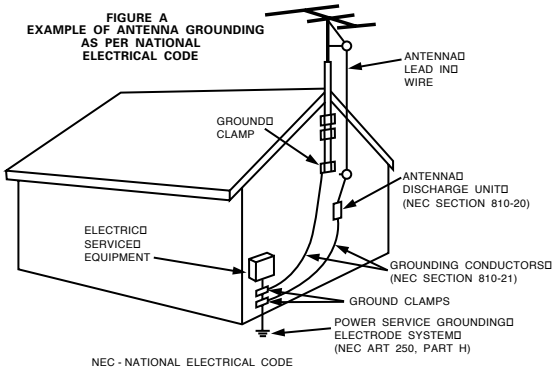
7. Setup Memory/Lock ..... page 111, 112
Exit

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Cleaning – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
6. Attachments – Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Water and Moisture – Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
8. Accessories – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
10. Ventilation – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. Power Sources – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12. Grounding or Polarization – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

NEC - NATIONAL ELECTRICAL CODE

13. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
15. Outdoor Antenna Grounding – If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
16. Lightning – For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
17. Power Lines – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
18. Overloading – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
19. Object and Liquid Entry – Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
20. Servicing – Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
21. Damage Requiring Service – Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the power-supply cord or plug is damaged,
    b) If liquid has been spilled, or objects have fallen into the product,
    c) If the product has been exposed to rain or water,
    d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
    e) If the product has been dropped or damaged in any way, and
    f) When the product exhibits a distinct change in performance – this indicates a need for service.
22. Replacement Parts – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
23. Safety Check – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
24. Wall or Ceiling Mounting – The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
25. Heat – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Getting Started

Thank you for choosing the DENON AVR-4806 Digital Surround A / V receiver. This remarkable component has been engineered to provide superb surround sound listening with home theater sources such as DVD, as well as providing outstanding high fidelity reproduction of your favorite music sources.
As this product is provided with an immense array of features, we recommend that before you begin hookup and operation that you review the contents of this manual before proceeding.

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Accessories

• Check that the following parts are included in addition to the main unit:

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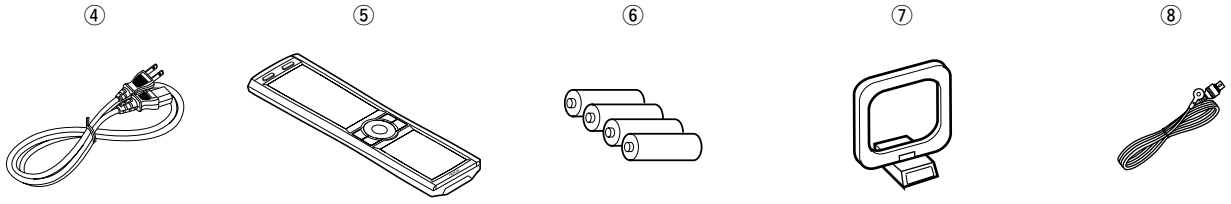


Before using

Pay attention to the following before using this unit:

• **Moving the set**
To prevent short circuits or damaged wires in the connection cables, always unplug the power supply cord and disconnect the connection cables between all other audio components when moving the set.

• **Before turning the Power switch on**
Check once again that all connections are proper and that there are not problems with the connection cables. Always set the power switch to the standby position before connecting and disconnecting connection cables.

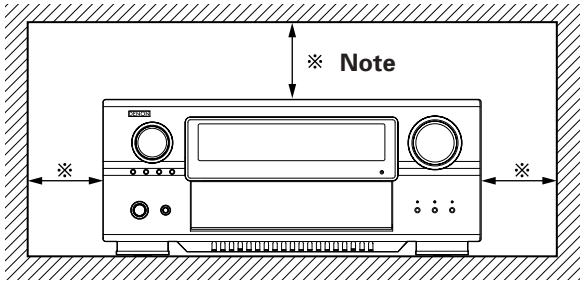
• **Store these instructions in a safe place.**
After reading, store these instructions along with the warranty in a safe place.

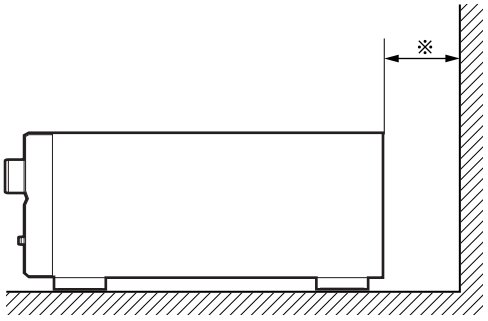
• **Note that the illustrations in these instructions may differ from the actual set for explanation purposes.**

Cautions on installation

Noise or disturbance of the picture may be generated if this unit or any other electronic equipment using microprocessors is used near a tuner or TV.
If this happens, take the following steps:
• Install this unit as far as possible from the tuner or TV.
• Set the antenna wires from the tuner or TV away from this unit's power supply cord and input/output connection cables.
• Noise or disturbance tends to occur particularly when using indoor antennas or 300 Ω/ohms feeder wires. **We recommend using outdoor antennas and 75 Ω/ohms coaxial cables.**

Note:
For heat dispersal, do not install this equipment in a confined space such as a book case or similar unit.





Cautions on handling

- **Switching the input function when input terminals are not connected.**
  A clicking noise may be produced if the input function is switched when nothing is connected to the input terminals. If this happens, either turn down the MASTER VOLUME control knob or connect components to the input terminals.

- **Muting of PRE OUT terminals and SPEAKER terminals.**
  The PRE OUT terminals and SPEAKER terminals include a muting circuit. Because of this, the output signals are greatly reduced for several seconds after the power switch is turned on or input function, surround mode or any other-set-up is changed. If the volume is turned up during this time, the output will be very high after the muting circuit stops functioning. Always wait until the muting circuit turns off before adjusting the volume.

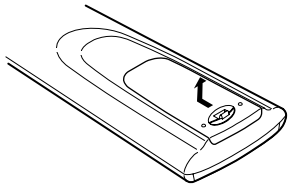
- **Whenever the power switch is in the STANDBY state, the apparatus is still connected on AC line voltage. Please be sure to turn off the power switch or unplug the cord when you leave home for, say, a vacation.**

Preparing the remote control unit

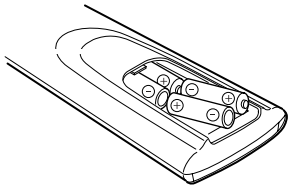
- The included remote control unit (RC-995) can be used to operate not only the AVR-4806 but other remote control compatible DENON components as well. In addition, the memory contains the control signals for other remote control units, so it can be used to operate non-DENON remote control compatible products.

Inserting the batteries

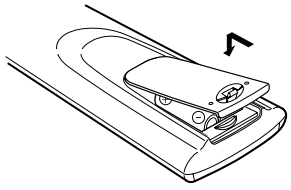
① Remove the remote control unit's rear cover.



② Set four R03/AAA batteries in the battery compartment in the indicated direction.



③ Put the rear cover back on.

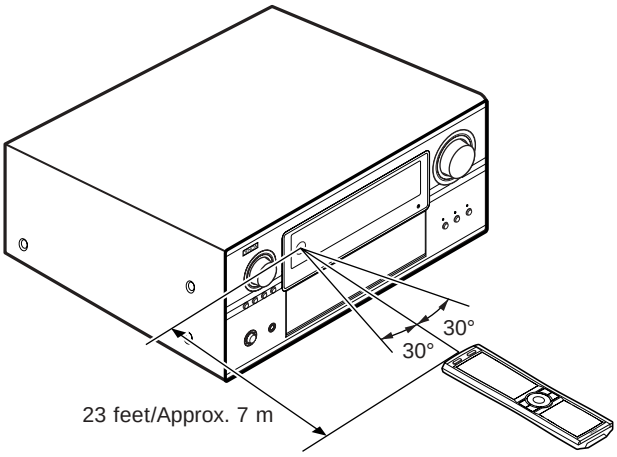


Notes on batteries:
- Replace the batteries with new ones if the set does not operate even when the remote control unit is operated nearby the set. (The included battery is only for verifying operation.)
- When inserting the batteries, be sure to do so in the proper direction, following the "⊕" and "⊖" marks in the battery compartment.
- To prevent damage or leakage of battery fluid:
  - Do not use a new battery together with an old one.
  - Do not use two different types of batteries.
  - Do not short-circuit, disassemble, heat or dispose of batteries in flames.
- If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
- When replacing the batteries, have the new batteries ready and insert them as quickly as possible.

■ Motion sensor

- The RC-995 remote control is equipped with a motion sensor that activates the backlighting function when it is picked up and/or handled. Occasionally, you might hear a faint "clicking" sound from within, this is the motion sensor, and is a normal condition.

Operating range of the remote control unit



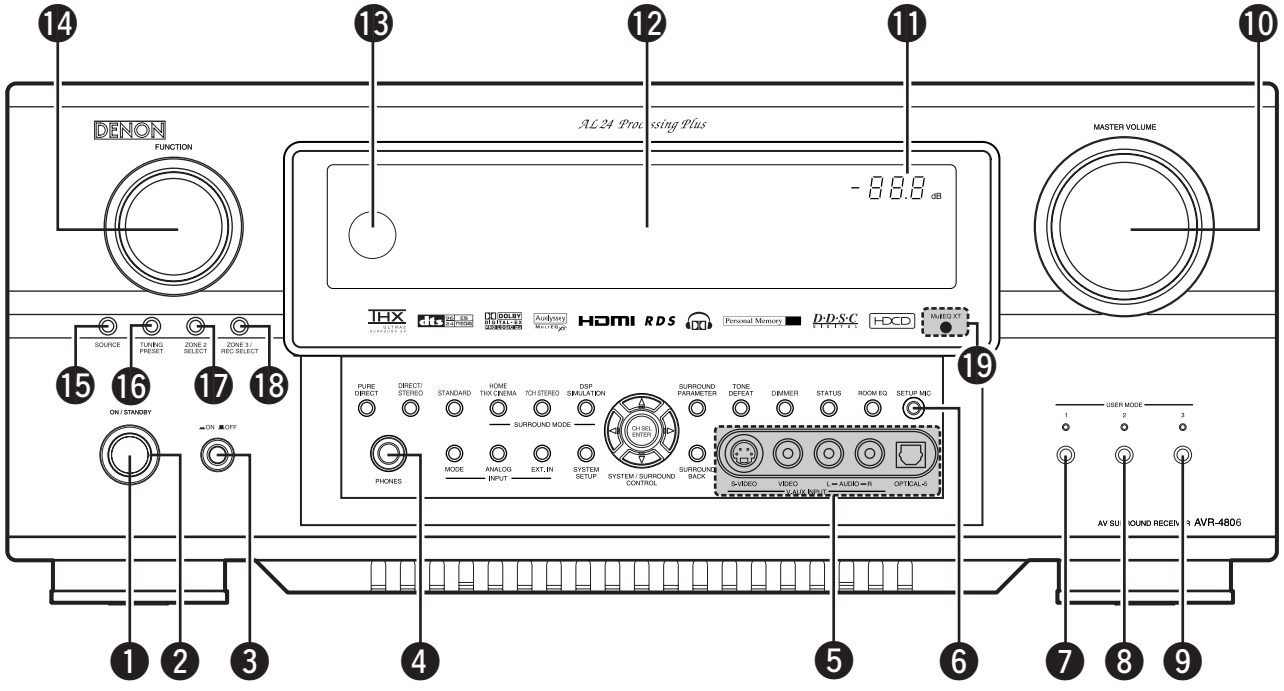
- Point the remote control unit at the remote sensor on the main unit as shown on the diagram.
- The remote control unit can be used from a straight distance of approximately 23 feet/7 meters from the main unit, but this distance will be shorter if there are obstacles in the way or if the remote control unit is not pointed directly at the remote sensor.
- The remote control unit can be operated at a horizontal angle of up to 30 degrees with respect to the remote sensor.

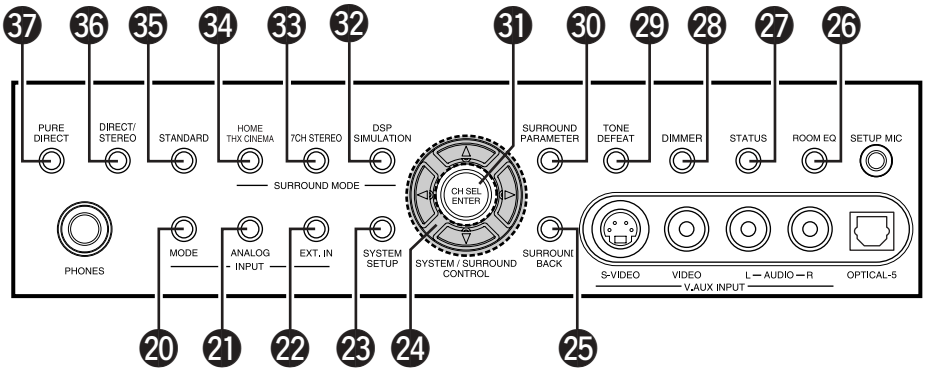
NOTE:
- It may be difficult to operate the remote control unit if the remote sensor is exposed to direct sunlight or strong artificial light.
- Do not press buttons on the main unit and remote control unit simultaneously. Doing so may result in malfunction.
- Neon signs or other devices emitting pulse-type noise nearby may result in malfunction, so keep the set as far away from such devices as possible.

Part names and functions

Front panel

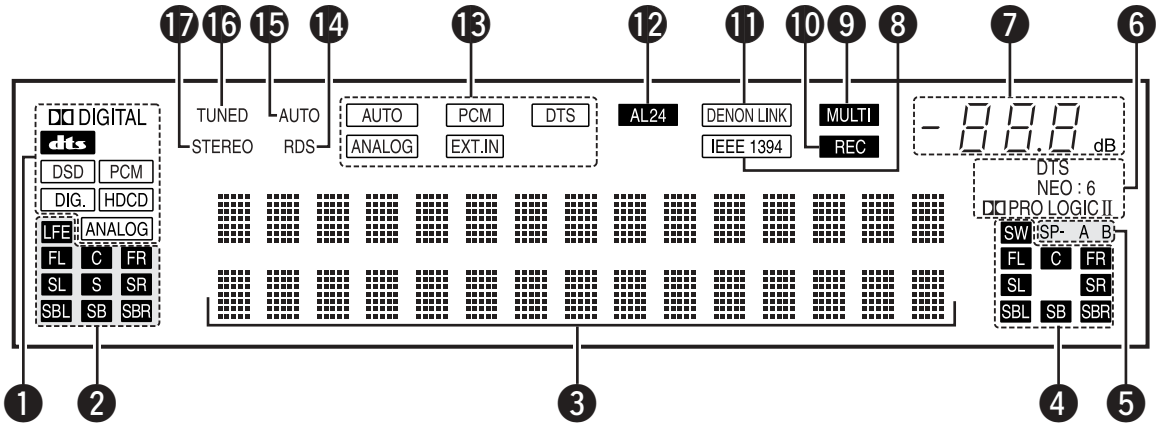
- For details on the functions of these parts, refer to the pages given in parentheses ( ).





❶ **Power ON/STANDBY switch** .....(21)
❷ **Power indicator** .....(21)
❸ **Power switch** .....(21, 86)
❹ **Headphones jack (PHONES)** .....(44)
❺ **V.AUX INPUT terminals** .....(30)
❻ **SETUP MIC jack** .....(20)
❼ **USER MODE 1 button** .....(59)
❽ **USER MODE 2 button** .....(59)
❾ **USER MODE 3 button** .....(59)
❿ **Master volume control knob** .....(43)
⓫ **Master volume indicator** .....(43)
⓬ **Display** .....(11)
⓭ **Remote control sensor** .....(9)
⓮ **FUNCTION knob** .....(43, 67, 82, 85)
⓯ **SOURCE button** .....(43)
⓰ **TUNING PRESET button** .....(67)
⓱ **ZONE2 SELECT button** .....(82)
⓲ **ZONE3/REC SELECT button** .....(82, 85)
⓳ **MultEQ XT indicator** .....(47)
⓴ **INPUT MODE button** .....(45)
㉑ **ANALOG button** .....(46)
㉒ **EXT. IN button** .....(44)
㉓ **SYSTEM SETUP button** .....(21)
㉔ **CURSOR button** .....(21)
㉕ **SURROUND BACK button** .....(51)
㉖ **ROOM EQ button** .....(47)
㉗ **STATUS button** .....(45)
㉘ **DIMMER button** .....(45)
㉙ **TONE DEFEAT button** .....(63)
㉚ **SURROUND PARAMETER button** .....(50)
㉛ **CH SELECT/ENTER button** .....(21, 64, 65)
㉜ **DSP SIMULATION button** .....(61)
㉝ **7CH STEREO button** .....(61)
㉞ **HOME THX CINEMA button** .....(50, 51)
㉟ **STANDARD button** .....(53~57)
㊱ **DIRECT/STEREO button** .....(49)
㊲ **PURE DIRECT button** .....(49)

Display



❶ Input signal indicator
The respective indicator will light corresponding to the input signal.

❷ Input signal channel indicator
The channels included in the input source will light.
This lights when the digital signal is inputted.

❸ Information display
This displays the surround mode, function name or setting value, etc.

❹ Output signal channel indicator
The audio channels that can be output light.

❺ Speaker indicator
This lights corresponding to the settings of the surround speakers of the various surround modes.

❻ Decoder indicator
This lights when each decoder is operating.

❼ Master volume indicator
This displays the volume level.
The Setup item number is displayed in System Setup.

❽ IEEE1394 indicator
This lights during playback in a IEEE1394 connection.

❾ Multi (zone) indicator
ZONE3 mode is selected in ZONE3/REC SELECT.

❿ Recording output source indicator
REC OUT mode is selected in ZONE3/REC SELECT.

⓫ DENON LINK indicator
This lights during playback in a DENON LINK connection.

⓬ AL24 indicator
The AL24 indicator lights when the PURE DIRECT, DIRECT, STEREO, MULTI CH PURE DIRECT , MULTI CH DIRECT, MULTI CH IN mode is selected in the PCM input signal.

⓭ Input mode indicator
This lights corresponding to the setting of the INPUT mode.

⓮ RDS indicator
This lights when RDS broadcast has been received.

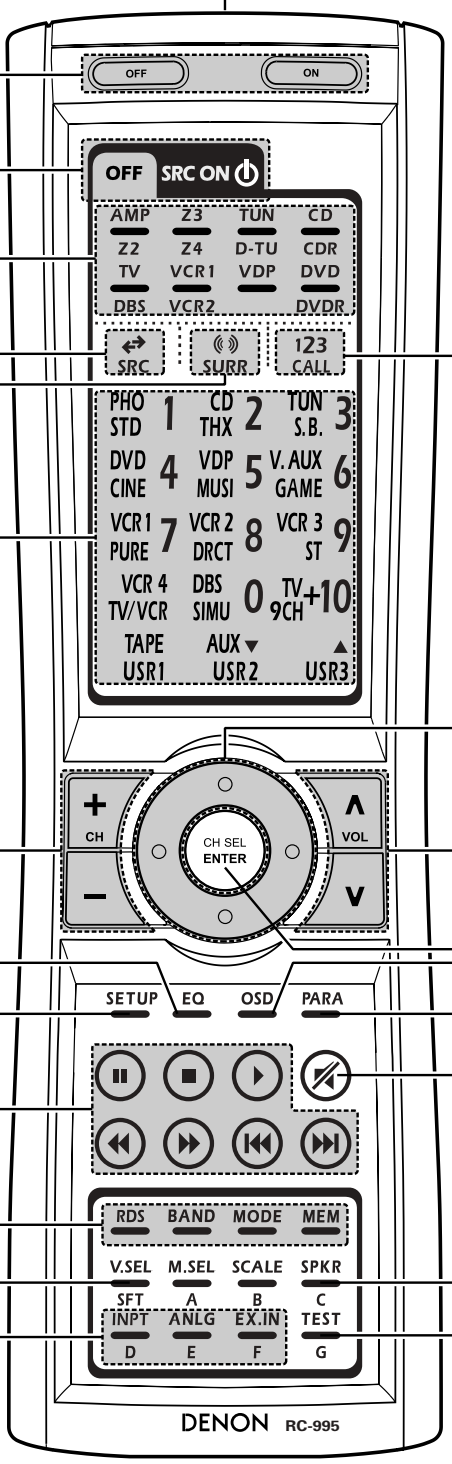
⓯ AUTO indicator
This lights when the broadcast station is selected in the AUTO tuning mode.

⓰ TUNED indicator
This lights when an FM/AM broadcast has been received.

⓱ STEREO indicator
This lights when an FM stereo broadcast has been received.

Remote control unit

• For details on the functions of these parts, refer to the pages given in parentheses ( ).



Remote control signal transmitter .....(9)

Power buttons.....(21)

System buttons .....(83)

Mode selector buttons .....(42, 70)

Input source button .....(42, 70)

Surround mode button .....(42, 70)

System buttons .....(70~72, 74, 75)

Number/System call button .....(42, 70)

Cursor buttons.....(21)

Master volume control buttons .....(43, 83)

Tuner system buttons .....(66~69, 72)

CH SELECT/ENTER button .....(21, 64, 65)

ROOM EQ button .....(47)

ON SCREEN button .....(45, 51)

SYSTEM SETUP button .....(21)

SURROUND PARAMETER button .....(50)

System buttons .....(70~72, 74, 75)

Muting button.....(44, 83)

Tuner system buttons .....(65~69, 72)

VIDEO SELECT button .....(44)

SPEAKER button .....(45)

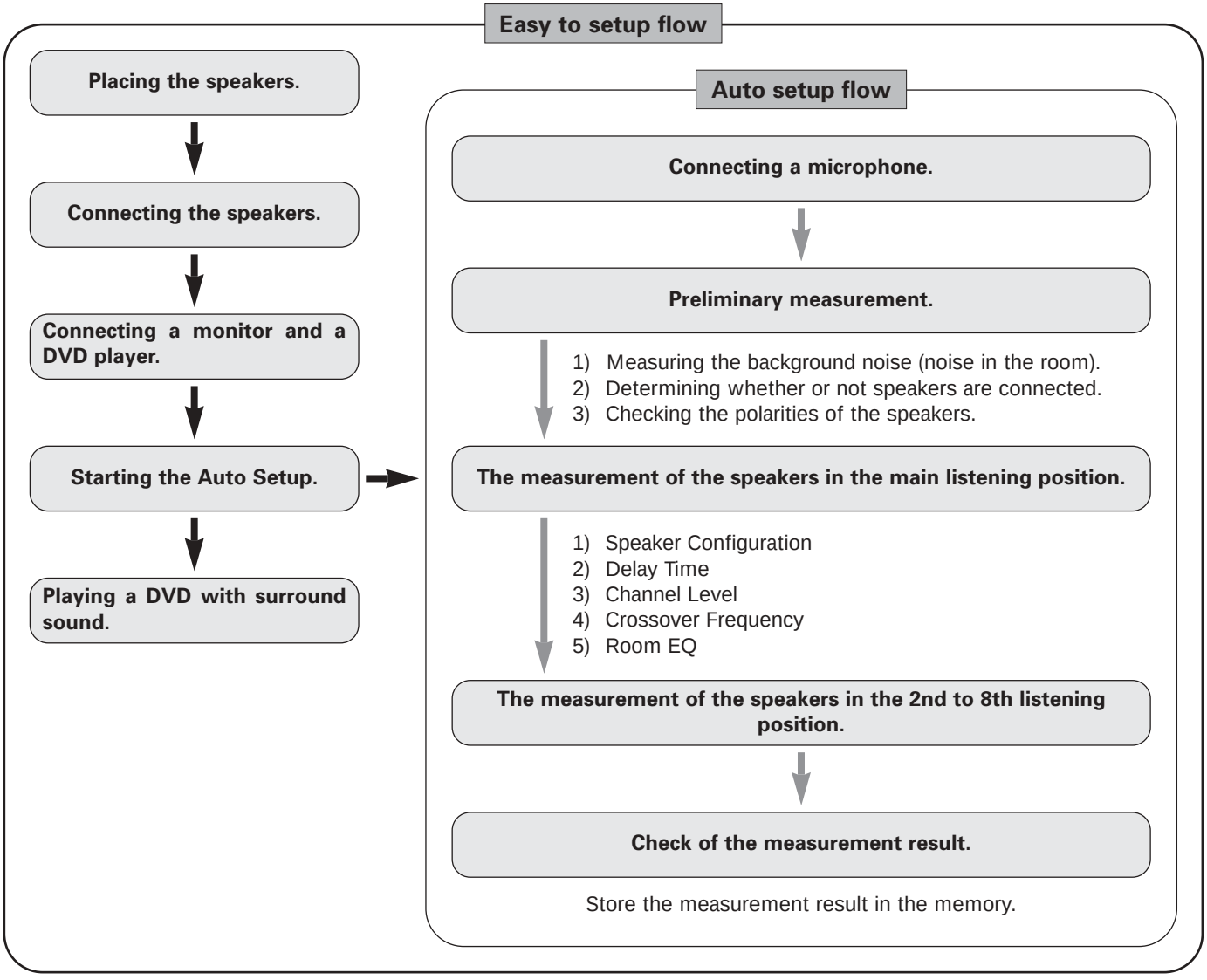
Input mode selector buttons .....(44~46)

TEST TONE button .....(118)

NOTE:
- With the AVR-4806, the “Z4”, “VCR4”, “AUX”, “M.SEL” and “SCALE” buttons cannot be used.
- The AVR-4806’s 7CH STEREO surround mode can be operated using the “9CH” button.
- For instructions on setting the remote control unit back light’s lighting time (☞ page 78).

Easy Setup and Operation

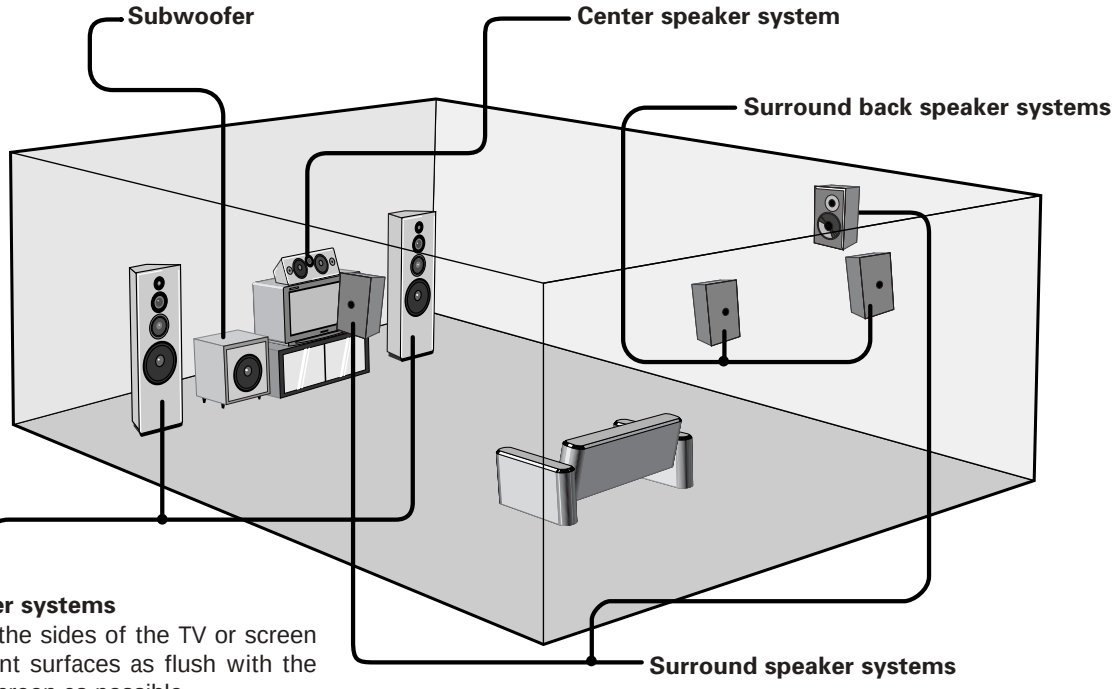
- This section contains the basic steps necessary to configure the AVR-4806 according to your listening room environment and the source equipment and loudspeakers you are using.
- For optimum performance, we recommend using the Auto Setup function.
- If you wish, you can set the various settings manually without using Auto Setup (☞ page 113 ~ 121).


Easy to setup flow
Placing the speakers.
Connecting the speakers.
Connecting a monitor and a DVD player.
Starting the Auto Setup.
Playing a DVD with surround sound.
Auto setup flow
Connecting a microphone.
Preliminary measurement.
1) Measuring the background noise (noise in the room).
2) Determining whether or not speakers are connected.
3) Checking the polarities of the speakers.
The measurement of the speakers in the main listening position.
1) Speaker Configuration
2) Delay Time
3) Channel Level
4) Crossover Frequency
5) Room EQ
The measurement of the speakers in the 2nd to 8th listening position.
Check of the measurement result.
Store the measurement result in the memory.

Speaker system layout

■ Basic system layout (For a THX Ultra2 system)

• The following is an example of the basic layout for a system consisting of eight speaker systems and a television monitor:



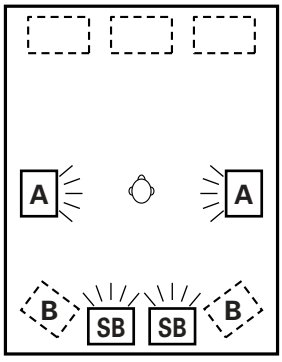
Front speaker systems
Set these at the sides of the TV or screen with their front surfaces as flush with the front of the screen as possible.

Two surround back speakers are required to use the THX Ultra2 Cinema,THX Music mode and THX Games mode.
Set the surround back speakers so that the distance to the listening position is the same for both the left and right speakers. It is also recommended that the deviations of the distance from the listening position to L and R channel speakers (front left (FL) and front right (FR), surround left (SL) and surround right (SR), surround back left (SBL) and surround back right (SBR)) is less than 2 ft (60 cm).

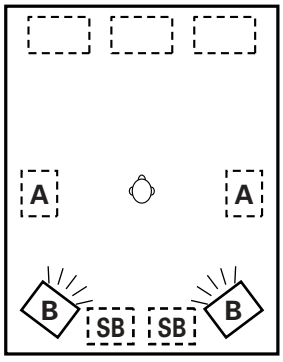
With the AVR-4806 it is also possible to use the surround speaker selector function to choose the best layout for a variety of sources and surround modes.

■ Surround speaker selector function

This function makes it possible to achieve the optimum sound fields for different sources by switching between two systems of surround speakers (A and B). The settings of the different speakers (A only, B only or A+B) are stored in the memory for the different surround modes, so they are set automatically when the surround mode is selected.



Using A only
(Multi surround speaker system)



Using B only
(Single surround speaker system)

(SB: Surround Back Speakers)

Speaker connections

- Connect the speaker terminals with the speakers making sure that like polarities are matched (⊕ with ⊕, ⊖ with ⊖). Mismatching of polarities will result in weak central sound, unclear orientation of the various instruments, and the sense of direction of the stereo being impaired.
- When making connections, take care that none of the individual conductors of the speaker cable come in contact with adjacent terminals, with other speaker cable conductors, or with the rear panel.

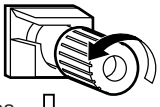
NOTE:
NEVER touch the speaker terminals when the power is on. Doing so could result in electric shocks.

■ Speaker Impedance

- Speakers with an impedance of from 6 to 16 Ω/ohms can be connected for use as front, center, surround and surround back speakers.
- Be careful when using two pairs of surround speakers (A + B) at the same time, since use of speakers with an impedance of less than 8 Ω/ohms will lead to damage.
- The protector circuit may be activated if the set is played for long periods of time at high volumes when speakers with an impedance lower than the specified impedance are connected.

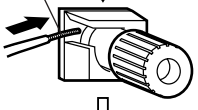
Connecting the speaker cables

1. Loosen by turning counterclockwise.

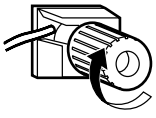


Either tightly twist or terminate the core wires.

2. Insert the cable.

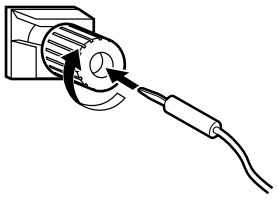


3. Tighten by turning clockwise.



Connecting banana plugs

Turn clockwise to tighten, then insert the banana plug.



Protector circuit

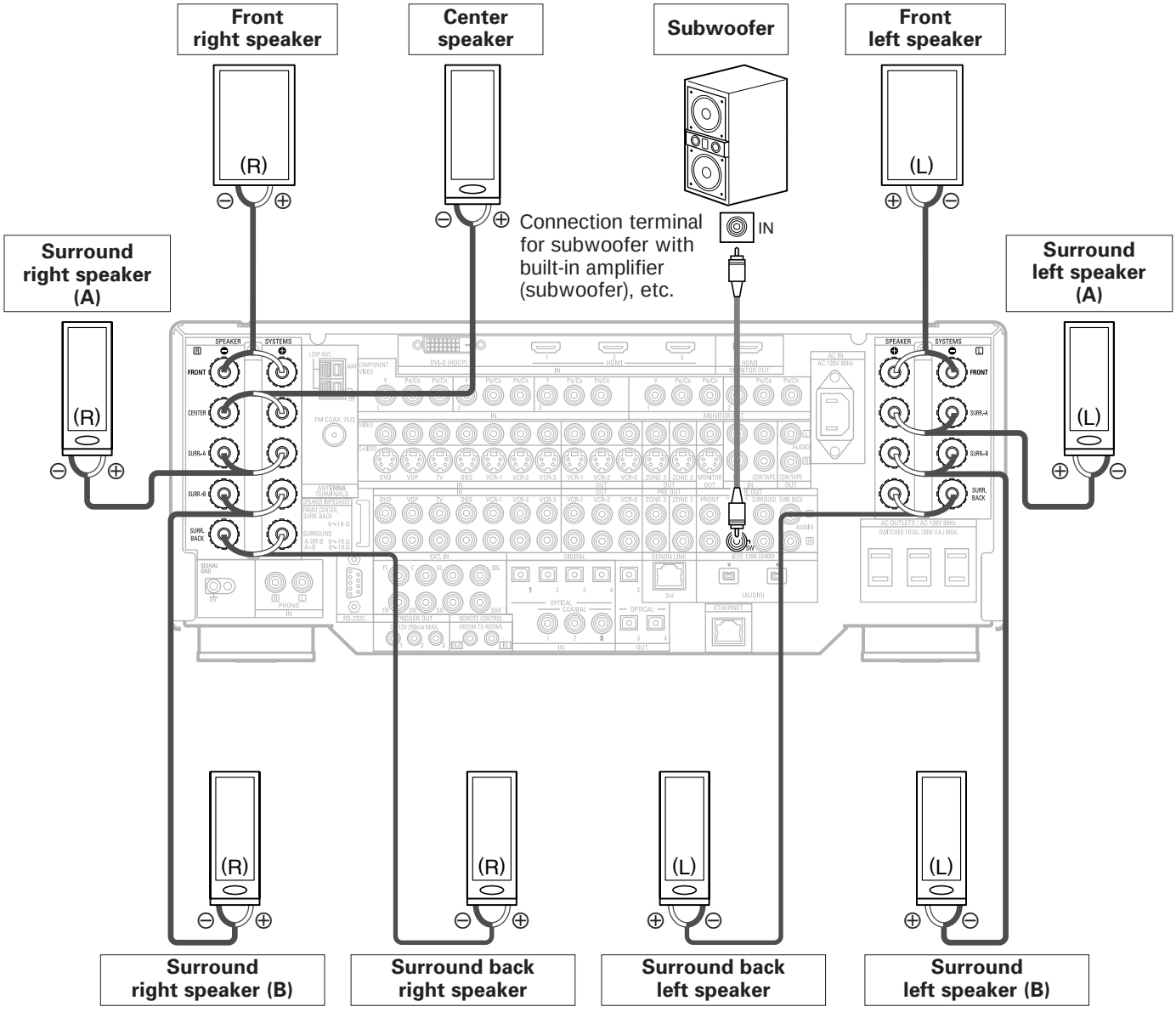
This unit is equipped with a high-speed protection circuit. The purpose of this circuit is to protect the speakers under circumstances such as when the output of the power amplifier is inadvertently short-circuited and a large current flows, when the temperature surrounding the unit becomes unusually high, or when the unit is used at high output over a long period which results in an extreme temperature rise.
When the protection circuit is activated, the speaker output is cut off and the power supply indicator flashes. Should this occur, please follow these steps: be sure to switch off the power of this unit, check whether there are any faults with the wiring of the speaker cables or input cables, and wait for the unit to cool down if it is very hot. Improve the ventilation condition around the unit and switch the power back on.
If the protection circuit is activated again even though there are no problems with the wiring or the ventilation around the unit, switch off the power and contact a DENON service center.

Note on speaker impedance

The protector circuit may be activated if the set is played for long periods of time at high volumes when speakers with an impedance lower than the specified impedance (for example speakers with an impedance of lower than 4 Ω/ohms) are connected. If the protector circuit is activated, the speaker output is cut off. Turn off the set's power, wait for the set to cool down, improve the ventilation around the set, then turn the power back on.

■ Connections

- The AVR-4806 can be configured for 10 speaker playback using two pairs of surround speakers (A+B) and one pair of surround back speakers as shown below.
- The output of each power amplifier can be assigned to any desired channel to best suit the application.
  For details, refer to "Setting the Channel Setup" and "Setting the Power Amplifier Assignment" (☞ page 105 ~ 107).
- When making connections, also refer to the operating instructions of the other components.



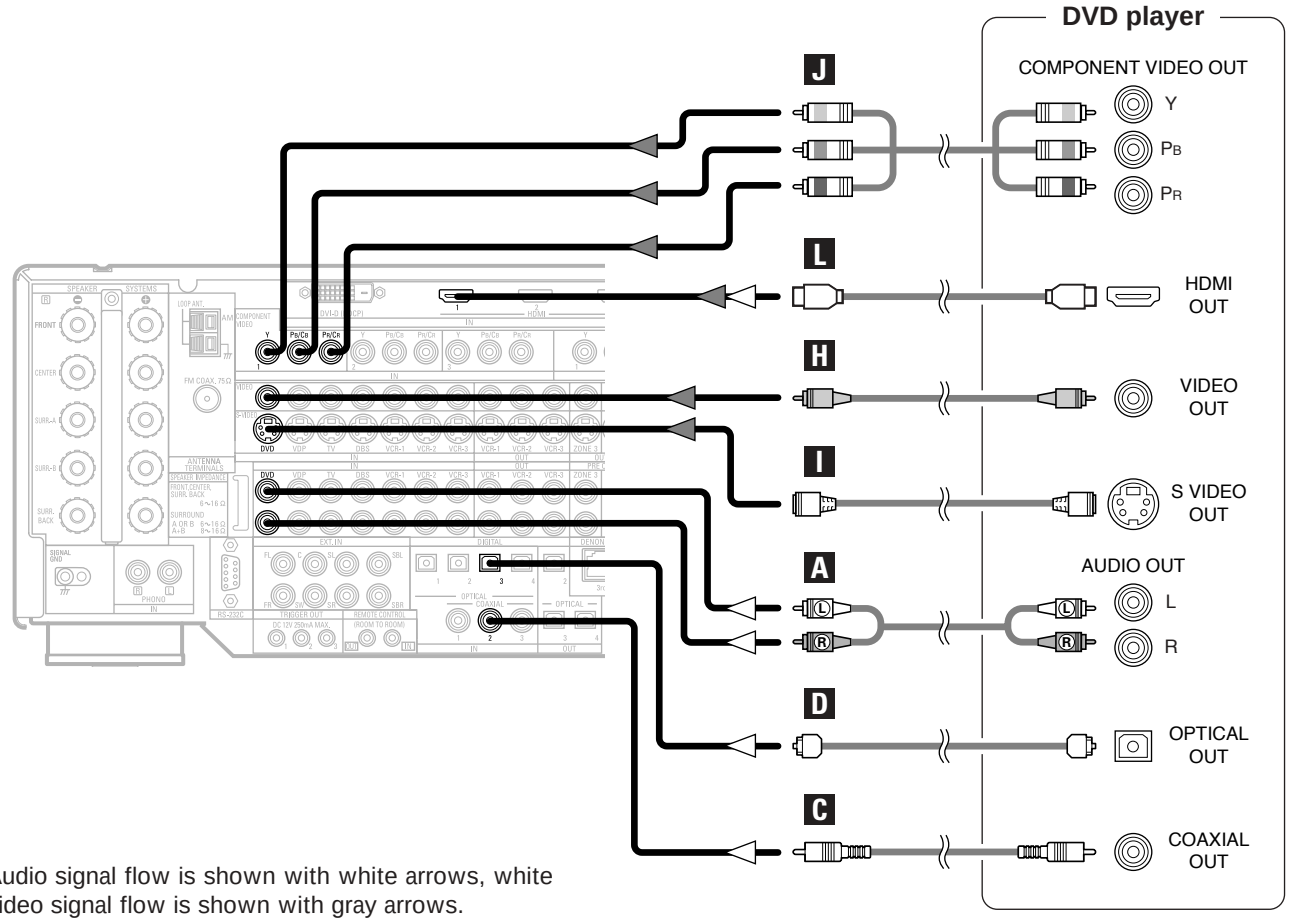
- **Precautions when connecting speakers**
  If a speaker is placed near a TV or video monitor, the colors on the screen may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.

NOTE:

- When using only one surround back speaker, connect it to left channel.

Connecting a DVD player and Monitor TV

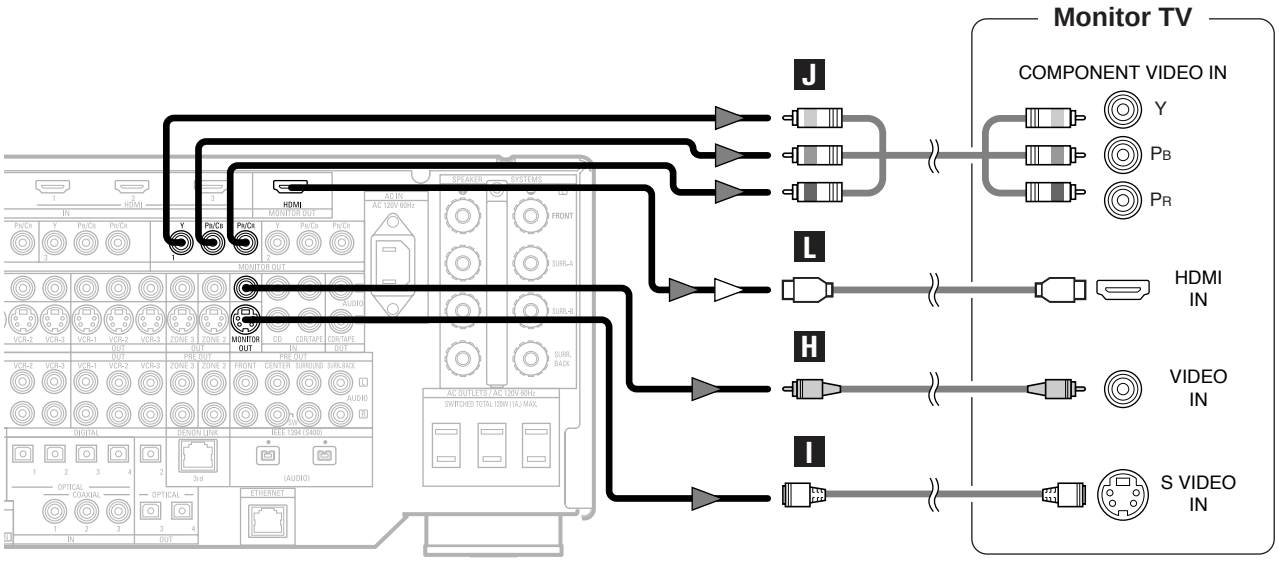
- To connect the video output from the DVD player to the AVR-4806, you only need to choose one connection type. Component video connection offers the best quality (and is required for progressive DVD playback), followed by S-Video, while composite video offers the lowest picture quality of the three connection types. For more information about the video up conversion function (☞ page 27).
- The AVR-4806 is equipped with HDMI connectors, so it can be connected to a DVD player or monitor TV using an HDMI cable. To connect it to a DVD player using a DVI-D cable (☞ page 36).
- To connect the digital audio output from the DVD player, you can choose from either the coaxial or optical connections. If you choose to use the optical connection, it needs to be assigned. For more information about Digital Input Assignment (☞ page 89).
- The AVR-4806 is equipped with another set of input terminals for a non-DVD Video Disc Player (such as laser disc, VCD/SVCD, or future high definition disc player). The above connection guidelines for DVD also apply to the VDP input.



※ Audio signal flow is shown with white arrows, white video signal flow is shown with gray arrows.

Easy Setup and Operation

- For best picture quality (especially with progressive DVD and other high definition sources) choose the component video connection to your monitor TV. S-Video and composite video outputs are also provided if your TV does not have component video inputs.



NOTE:

- The component video input and/or output terminals may be labeled differently on some TVs, monitors or video components (Y, P_B, P_R; Y, C_B, C_R; Y, B-Y, R-Y). Check the owner's manuals for other components for further information.
- The COMPONENT MONITOR OUT-1 and the COMPONENT MONITOR OUT-2 can be used simultaneously.
- Audio signals are only output from the HDMI monitor out connector when audio signals are input to the HDMI input connector.
- When connecting the AVR-4806 and DVD player using an HDMI cable, also connect the AVR-4806 and monitor TV using an HDMI cable (☞ page 35).

Auto Setup / Room EQ

The Auto Setup and Room EQ function of this unit performs an analysis of the speaker system and measures the acoustic characteristics of your room to permit an appropriate automatic setting.
The AVR-4806's Audyssey MultEQ XT function has the feature that it provides the optimum listening environment at all listening positions in the home theater, where there are often multiple listeners viewing programs together. To achieve this, it is first necessary to use a microphone to measure test tones generated from the different speakers at the various listening positions. All this measured data is analyzed with a unique method to comprehensively improve acoustic characteristics in the listening area. For optimum effectiveness, measurements should be performed **at six or more points**. Move the microphone successively within the listening area surrounded by the speakers as shown on the diagram below to measure the test tones. When listening to music or viewing movies with the whole family, move the microphone successively to the different positions in which the members of the family sit ("▬" on the diagram indicates the points of installation) and measure repeatedly (Example ①). Even if the number of people using the home theater is small, taking multiple measurements at or near the listening positions makes it possible to correct the sound more effectively (Example ②).
The AVR-4806's Room EQ function offers three correction curves: "Audyssey", "Front" and "Flat". These can be selected after performing the auto setup procedure. Details of the different correction curves are described below.

- **Audyssey:**
  This adjusts the frequency response of all speakers to correct the effects of room acoustics.
- **Front:**
  This adjusts the characteristics of each speaker to the characteristics of the front speakers.
- **Flat:**
  This the frequency response of all speakers flat.
  This is suitable for multi-channel music reproduction, from discrete music sources such as Dolby Digital 5.1, DTS, DVD-Audio and Super Audio CD.

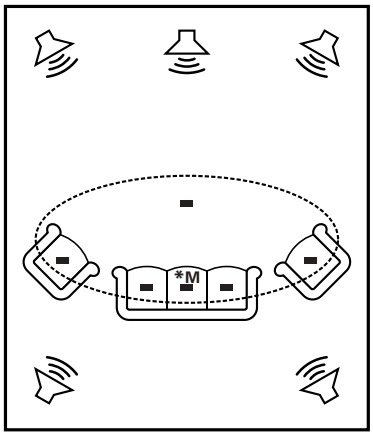
MEMO

- To make the Speaker system settings without using the Auto Setup function (☞ page 113 ~ 121).
- When performing Auto Setup, an optional microphone is required for setup.

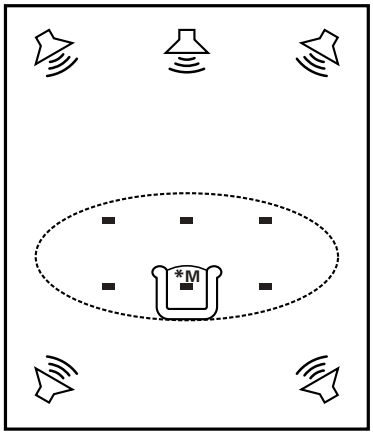
■ About the main listening position (*M)

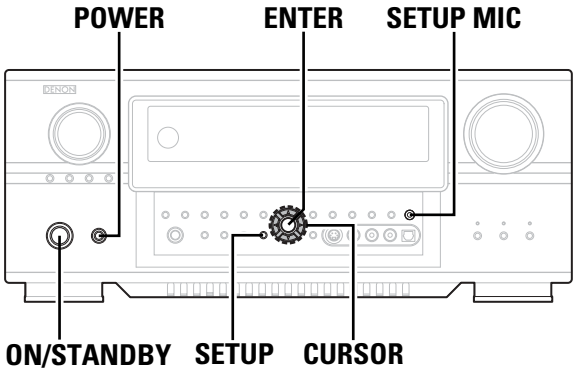
- The main listening position is the point where a listener sits most often or the listening position when only one person is listening. Measurements on the AVR-4806 start from this point. Correction for the speaker distance ("Delay Time") is set based on this point.

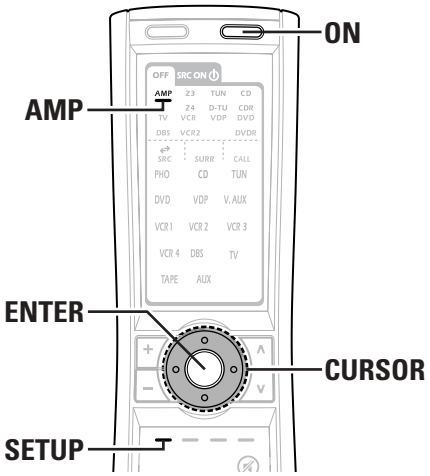
Example: ①



Example: ②

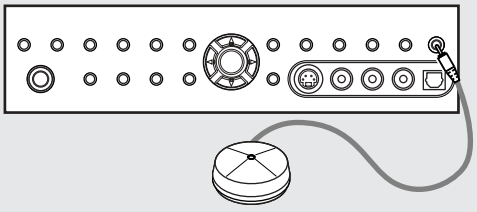






Connecting a microphone

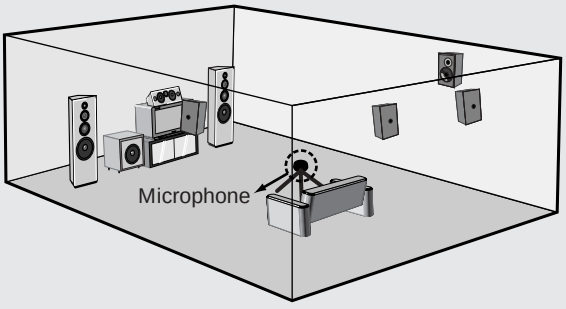
1 **Connect the included microphone for Auto Setup to the SETUP MIC jack on the front panel of the unit.**



※ The standard microphone is DENON DM-S305.

※ When using other microphone (☞ page 123, 124).

2 **Mount the auto setup microphone onto a camera tripod, etc., and place it at ear height at the main listening position in the listening room with the sound receptor facing the ceiling.**



※ When placing the microphone, adjust the height so that the microphone's sound receptor is at the height of the ears of the listener.

※ Be sure that at the beginning, the measurement is started with the microphone set up at the main listening position.

※ It is not possible to measure properly if there are any obstacles between the speakers and microphone. Check that there are no obstacles.

※ Please do not stand between or near the speakers and the microphone during the measurements.

NOTE:

- Do not disconnect the microphone until the settings are completed.
- Do not change the connection of speakers or the subwoofer's volume after performing these measurements.

Turning on the power

1 **Turn on your subwoofer.**

※ Set the volume to halfway and set the crossover frequency to the maximum or Low pass filter off if your subwoofer can adjust the output volume and the crossover frequency.

※ Some subwoofers have a standby mode. Be sure to turn this function off before performing the Auto Setup procedure.

2 **Turn on your monitor (TV).**

3 **Press the POWER switch.**

▬ **ON:**
The power turns on and the power indicator lights. Set the **POWER** switch to this position to turn the power on and off from the included remote control unit.

▙ **OFF:**
The power turns off and indicator is off.
In this position, the power cannot be turned on and off from the remote control unit.

4 **Press the ON/STANDBY switch on the main unit or ON button on the remote control unit.**

- When pressed, the power turns on and the display lights.
- When pressed again, the power turns off, the standby mode is set and the display turns off.

※ The sound is muted for several seconds, after which the unit operates normally.

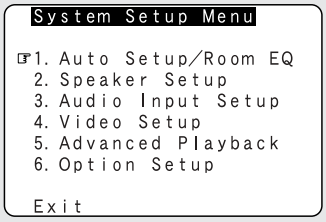
※ Whenever the **ON/STANDBY** button is in the standby state, the apparatus is still connected to the AC line voltage. Please be sure to turn off the **POWER** switch or unplug the cord when you leave home for, say, a vacation.

5 **Press the AMP button to select the "AMP" (only when operating with the remote control unit).**

Starting Auto Setup

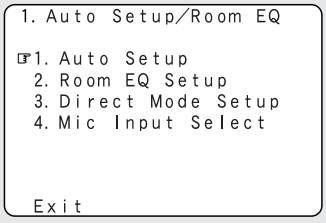
1 **Press the SETUP button.**

- Display the "System Setup Menu".



2 **Press the CURSOR △ or ▽ button to select the "Auto Setup / Room EQ", then press the ENTER button.**

- Display the "Auto Setup / Room EQ" menu screen.



3 **Press the CURSOR △ or ▽ button to select the "Auto Setup", then press the ENTER button.**

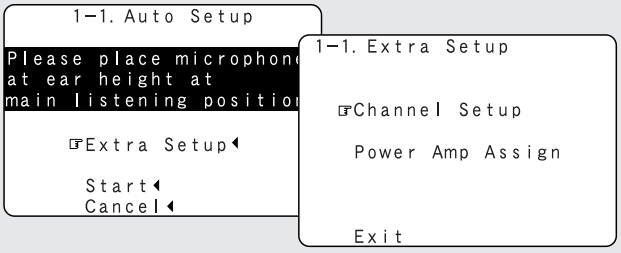
- Display the "Auto Setup" screen.

※ The message "Connect Microphone" is displayed if no microphone is connected. If so, connect the auto setup microphone.

Extra Setup

- The AVR-4806 has seven available amplifier channels, some of which can be assigned for powering speakers in ZONE2 and ZONE3, depending on the speaker system complement in the main room. If this functionality is not needed, skip this "Extra Setup" procedure and proceed to "Preliminary Measurements" (☞ page 22, 23).

1 **Press the CURSOR △ or ▽ button to select the "Extra Setup", then press the CURSOR ◁ button.**
- Switch to the "Extra Setup" screen.



2 **Press the CURSOR △ or ▽ button to choose the setting you want to change, then press the ENTER button.**
- Switch to the setting screen.

※ For instructions on making the "Channel Setup" settings (☞ page 105).
※ For instructions on making the "Power Amp Assign" settings (☞ page 106, 107).
※ The speakers measured with this Auto Setup procedure are based on the setting of these "Channel Setup" and "Power Amp Assign" functions.

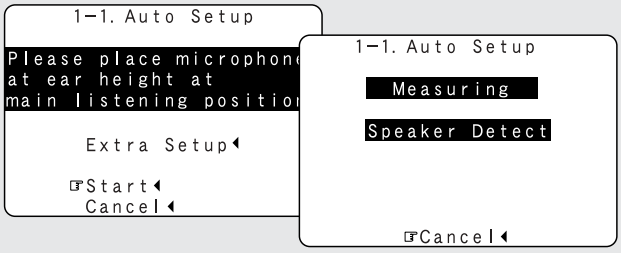
3 **Once the settings are completed, press the ENTER button at the each setting screen.**
- The "Extra Setup" menu reappears.

4 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- Return to the "Auto Setup" screen.

Preliminary measurements

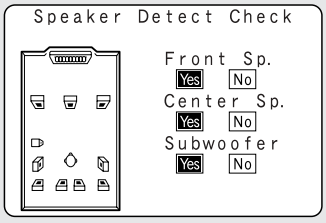
- This procedure is used to automatically determine the background noise, whether or not speakers are connected, and the polarities of the connected speakers.
- To avoid affecting the measurements, turn off the air-conditioner or any other device that makes noise and take the measurements with the room as quiet as possible.

1 **Press the CURSOR △ or ▽ button to select the "Start", then press the CURSOR ◁ button.**
- Start the preliminary measurements.



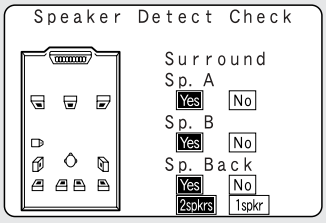
※ The screen shown at the below appears once the preliminary measurements are completed.

2 **Press the ENTER button.**
- Switch to the "Speaker Detect Check" screen.



[First screen]

3 **Check the results of the speaker detection, then press the ENTER button.**
- Switch to the second screen.



[Second screen]

4 **If the check ends, press the ENTER button again.**

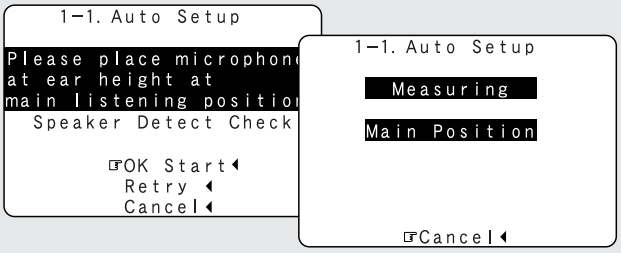
NOTE:
- If the results are not as expected or if an error message is displayed, select "Retry" and perform the measurements again. (For details on the error messages (☞ page 25).) If the results of remeasurement are still not as expected or if an error message is displayed, turn off the power switch and check the speaker connections. Then start the measurements again from the beginning.
- Measurement is cancelled when MASTER VOLUME is operated while the Auto Setup is performed.

Speaker system measurement

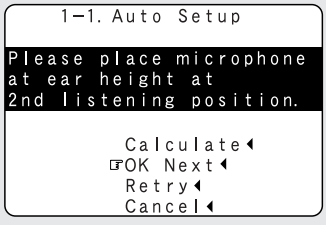
- With these measurements, the "Speaker Configuration", "Delay Time", "Channel Level", "Crossover Frequency" and "Room EQ" are analyzed automatically. The main listening position is measured first, so leave the microphone where it is.

1 Press the CURSOR △ or ▽ button to select the "OK Start", then press the CURSOR ◁ button.

- Measurements for the first point start.



※ The screen shown at the below appears once the measurements for the main listening position are completed.

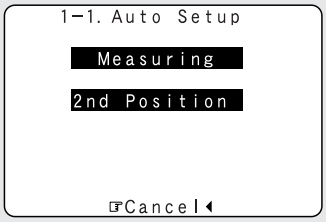


2 Next the measurements for the second point will be taken.

※ Place the microphone at the second listening position. For instructions on the position in which the microphone should be placed (☞ page 19).

3 Press the CURSOR ◁ button.

- Measurements for the second point start.

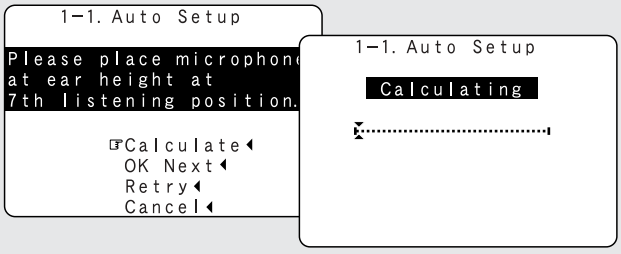


4 Perform step 2, 3 repeatedly.

※ The more measurement points, the better the resulting room correction effect. We recommend a minimum of 6 measurement points – 8 measurement points provides the best room correction effect.

5 After measuring at the number of points according to your listening environment, press the CURSOR △ or ▽ button to select the "Calculate", then press the CURSOR ◁ button.

- The speaker system is analyzed.



※ The amount of time required for the analysis depends on the number of speakers and the number of measuring points. The greater the number of speakers and measuring points, the longer the time required. For example, for ten speaker systems and 6 measuring points, the calculations require approximately 6 minutes.

※ Measurements can be ended when there are 5 or less measurement locations; however, to obtain better results, measurements at **6 or more locations** is recommended.

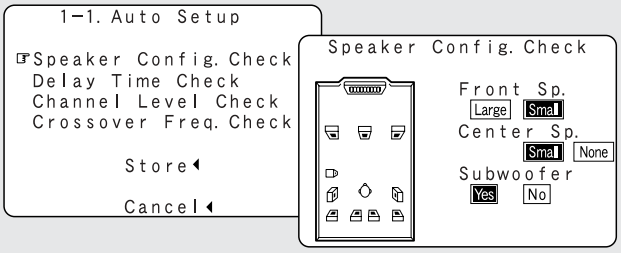
※ Once the calculations are completed, a screen for confirming the results of the measurements appears.

Check of the measurement result

- The results of the measured items can be checked.

1 **Press the CURSOR △ or ▽ button to select the items, then press the ENTER button.**
- Switch to the verification screen.

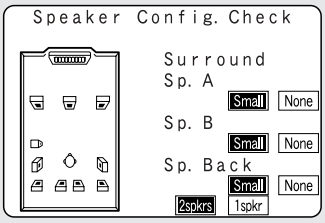
Example: Speaker Config. Check



[First screen]

2 **Press the ENTER button.**
- Switch to the second screen.

Example: Speaker Config. Check



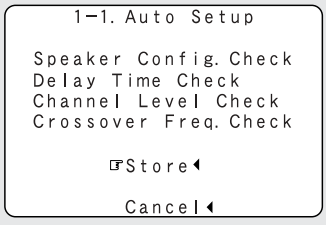
[Second screen]

3 **If the check ends, press the ENTER button again.**

4 **Press the CURSOR △ or ▽ button to select whether or not to save the data you have checked.**

Store:
Set with the checked measurement value.
All parameters are stored up.

Cancel:
Cancel the auto setup settings.



5 **Press the CURSOR ◁ button.**
- After the data is stored, the "Auto Setup / Room EQ" menu screen appears automatically.

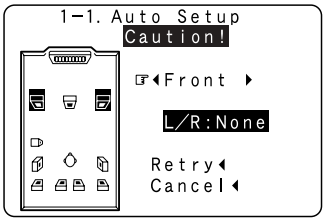
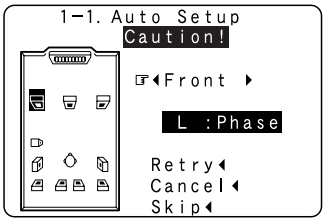
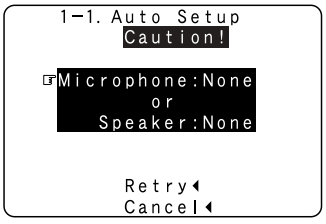
- Sometimes due to the electrical complexities of subwoofers and the interaction with the room, THX recommends setting the level and the distance of the subwoofer manually.
- Sometimes due to interaction with the room, you may notice irregular results when setting the level and/or distance of the main speakers. If this happens, THX recommends setting them manually.
- Please note that any THX main speakers should be set to Small (80 Hz). If you set up your speakers using Auto Setup, please make sure manually that any THX speakers are set to Small with 80 Hz crossover.

- When measurements have been made using the measurement microphone, speakers with a built-in filter such as subwoofers might be set with a value that differs from the physical distance because of the internal electrical delay.

NOTE:
- Do not turn off the power while the data is being stored. If the power is turned off while the data is being stored, the Room EQ parameters stored in the memory will be cleared, and it will not be possible to select the "Audyssey", "Front" or "Flat" equalizer settings.

About the error message

- These error messages will be displayed when performing the measurements of Auto Setup and the automatic measurements can not be completed because of the speaker arrangement, measurement environment, or other factors. Please check the following matters, reset the pertinent items, and measure again. Be sure to turn off the AVR-4806's power before checking the speaker connections.

Screen example	Cause	Measures
	① The speakers required for producing suitable reproduction have not been detected. • The front L and front R speakers were not properly detected. • Only one channel of the surround (A) and surround (B) speakers was detected. • Sound was output from the R channel when only one surround back speaker was connected. • The surround back or the surround (B) speaker was detected, but the surround (A) speaker was not detected. ※ If multiple errors occur, press the **CURSOR** ◁ or ▷ button to check the contents.	• Check that the pertinent speakers are properly connected.
	② The speaker polarity is connected in reverse. ※ If multiple errors occur, press the **CURSOR** ◁ or ▷ button to check the contents.	• Check the polarity of the pertinent speakers. • For some speakers, the screen below may be displayed even though the speakers are properly connected. If so, select "Skip◀".
	③ There is too much ambient noise in the room and the measurements cannot be made accurately. ④ The sound level that is output from the speakers and/or subwoofer is too low.	• Either turn off the power of the device that generated the noise during the measurements or move the device away. • Try again at a time when it is quieter. • Check the placement and orientation of the loudspeakers. • Adjust the subwoofer's output level.
	⑤ The measurement microphone is not connected, or all of speakers have not been detected.	• Connect the measurement microphone to the microphone connector. • Check the speaker connection.

Playing a DVD with Surround Sound

1 **Disconnect the microphone from the unit.**

2 **Select the input source to be played.**

3 **Select the play mode.**

4 **Start DVD playback.**

5 **Adjust the volume.**

Connecting Other Sources

Cable indications

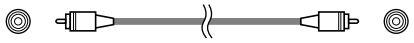
• The hookup diagrams on the subsequent pages assume the use of the following optional connection cables (not supplied).

Audio cable

A Analog terminal (Stereo)

Pin-plug cable

B Analog terminal (Monaural, for subwoofer)

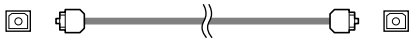


Pin-plug cable

C Digital terminal (Coaxial)

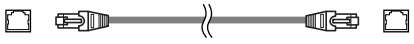
Coaxial cable (75 Ω/ohms pin-plug cable)

D Digital terminal (Optical)



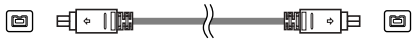
Optical cable (Optical fiber cable)

E DENON LINK terminal



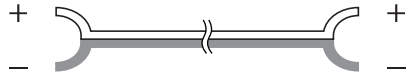
DENON LINK cable

F IEEE1394 terminal



4-pin, S400 IEEE1394 cable

G Speaker terminal



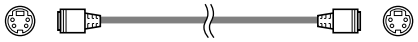
Speaker cable

Video cable

H Video terminal

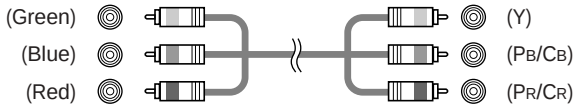
Video cable (75 Ω/ohms video pin-plug cable)

I S-Video terminal



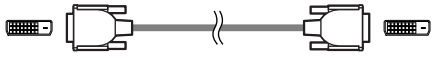
S-Video cable

J Component video terminal



Component video cable

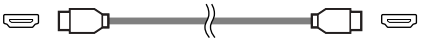
K DVI-D terminal



24-pin DVI-D cable

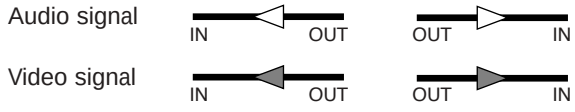
Audio and Video cable

L HDMI terminal



HDMI cable

Signal direction



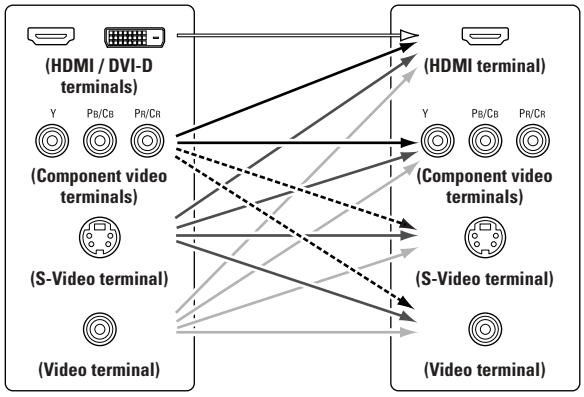
NOTE:
- Do not plug in the power supply cord until all connections have been completed.
- When making connections, also refer to the operating instructions of the other components.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Note that binding pin-plug cables together with power supply cords or placing them near a power transformer will result in generating hum or other noise.

NOTE:
- **Connecting a LD (laser disc) player with a Dolby Digital RF Output**
  The AVR-4806 does not have a DD RF demodulator function. Therefore, you need to use a commercially available outboard DD RF demodulator and connect its digital output to one of the AVR-4806 available digital inputs. Refer to the demodulator's owner's manual for further information.

The video conversion function

- The AVR-4806 is equipped with a function for up and down converting video signals.
  Because of this, the AVR-4806's MONITOR OUT terminal can be connected to the monitor (TV) with a set of cables offering a higher quality connection, regardless of how the player and the AVR-4806's video input terminals are connected.
  Generally speaking, analog video connections using the component video terminals offer the highest quality playback, followed by connections using the S-Video terminals, then connections using the regular video terminals (yellow).

The flow of the video signals.



This unit's input terminals — This unit's output terminals

▬ ▬ ▬ ▬ : only MAIN ZONE 480i/576i

NOTE:
- It is not possible to down-convert from HDMI and DVI-D input signals to the component, S-Video or composite video monitor output terminals.
- Video down conversion to the MAIN ZONE's monitor output is only possible when the component video input resolution is 480i (interlaced standard definition video – NTSC format, for North America) or 576i (interlaced standard definition video – PAL format, for Europe and other countries).
- To change the setting of the video conversion mode for the MAIN ZONE (☞ page 97, 98).

■ The analog video to HDMI conversion function:

- The AVR-4806's video up-conversion function lets you output analog video input signals (component – 480i/576i, 480p/576p, 1080i or 720p; S-Video and composite video - 480i/576i) to the HDMI monitor output terminal with the original resolution.
- The on screen display signals are output from the HDMI monitor output terminal with a resolution of 480i/576i. Because of this, if the monitor equipped with HDMI terminal is compatible with the 480i/576i resolution, all the signals the AVR-4806 handles can be output to the monitor with a single HDMI cable. The resolutions with which the monitor is compatible can be checked using the **STATUS** button on the main unit or the **ON SCREEN** button on the remote control unit.

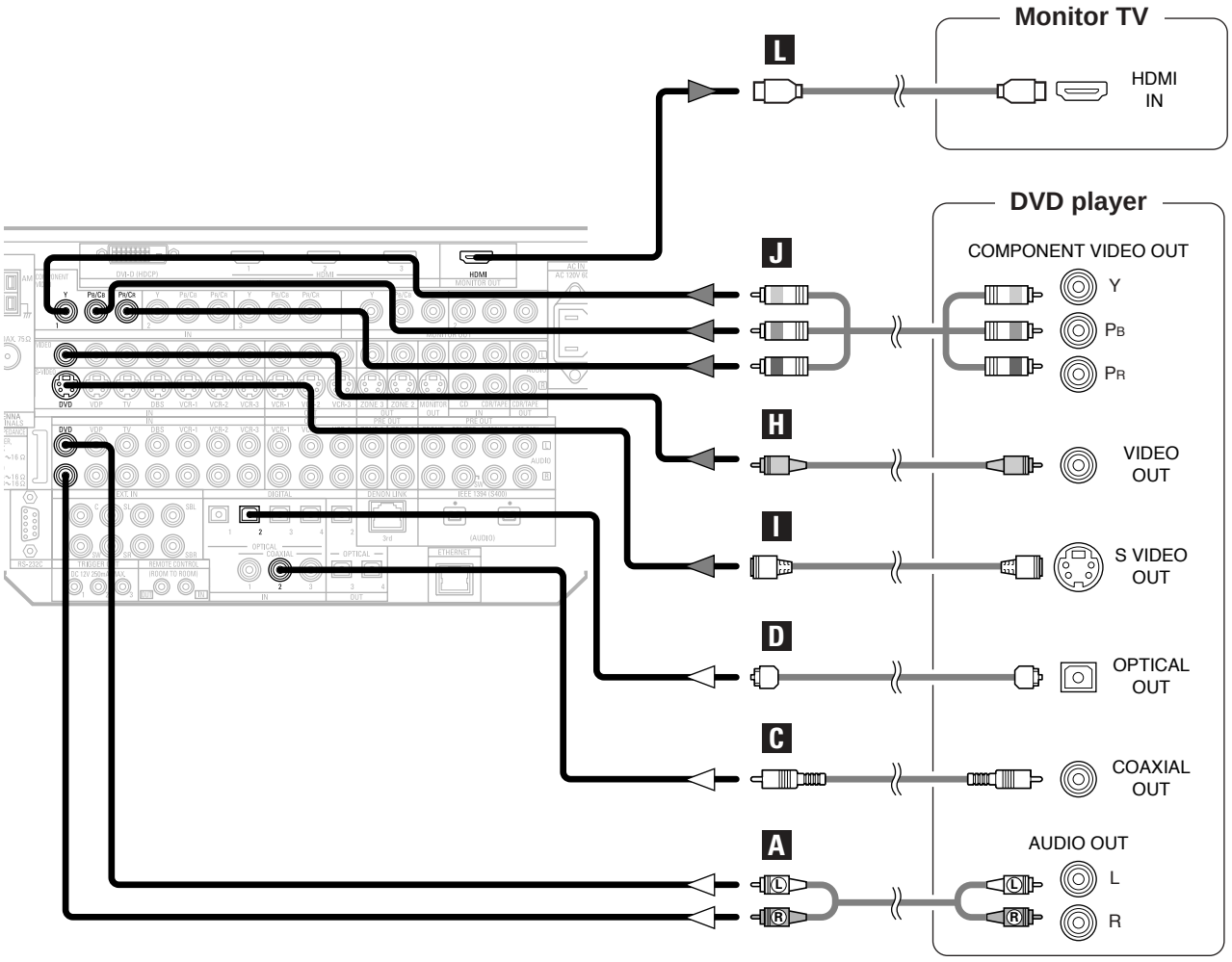
- If the monitor equipped with HDMI terminal is not compatible with the 480i/576i resolution, connect the player and the AVR-4806 using a component cable and set the player's resolution to one which the monitor can handle.
- If you do not want to use the function for converting analog video signals to HDMI signals, select "OFF" for "Analog to HDMI Convert" at "Setting the HDMI Out Setup" (☞ page 98, 99).
  In this case, the function for video up conversion to the component video terminal operates.

On screen display for component video outputs and HDMI output

- When viewing component video signals or HDMI signals via the AVR-4806, the on screen display is displayed on the monitor when the "System Setup" operations are performed and when the remote control unit's **ON SCREEN** button is operated.
- To view the on-screen display using an HDMI monitor, set "Analog to HDMI Convert" at "HDMI Out Setup" to "ON" (default).
- When only component video signals are input to the AVR-4806 or when "Component" is selected at the "Setting the Video Convert Mode", the characters of the on screen display are not displayed over the picture.

Connecting equipment with HDMI (High-Definition Multimedia Interface) terminals [To convert analog video signals to HDMI signals]

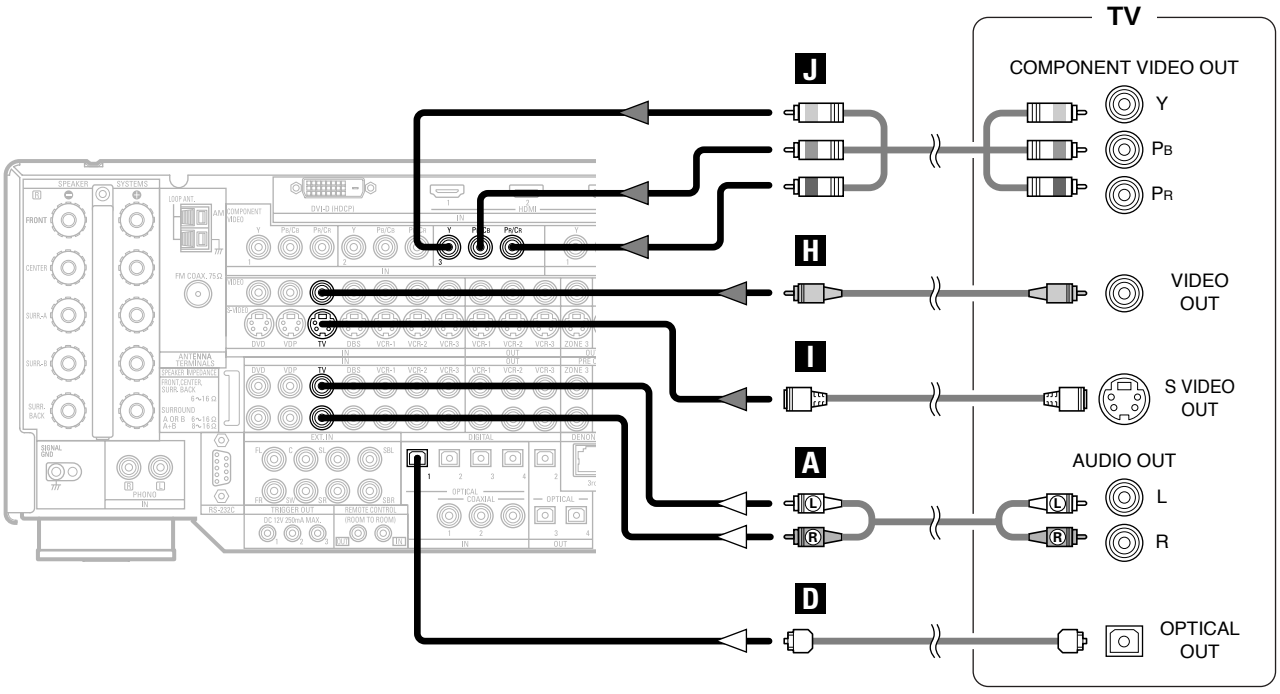
- The AVR-4806 is equipped with a function for converting analog video signals into HDMI signals. You can do this by either a component or a video or a S-Video connection.
- Audio signals are not output from the HDMI monitor output terminal, so also make analog or digital audio connections. To play sound using digital audio connections, assign the digital terminal (coaxial or optical) at "Setting the Digital In Assign" (☞ page 89).



NOTE:
- Use an HDMI monitor compatible with an HDMI input resolution of 480i or 576i.
- If your monitor is not equipped with an HDMI terminal, connect the AVR-4806 to the monitor using the component video, S-Video, or composite video terminals.

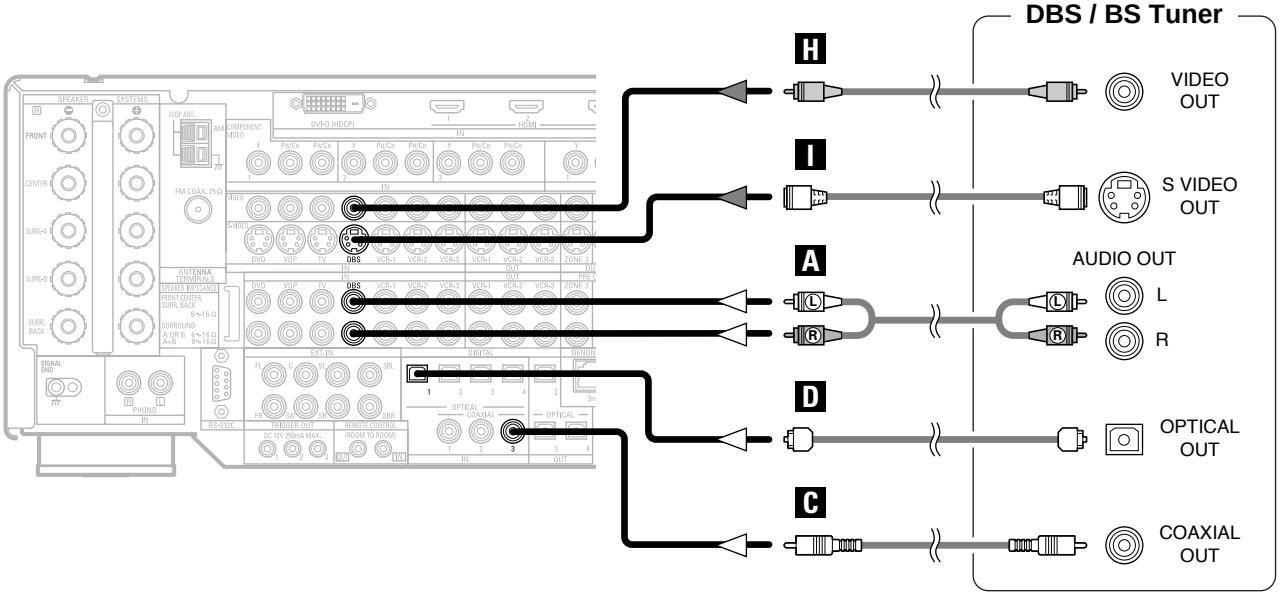
Connecting a TV tuner

- For best picture quality choose the component video connection to your TV. S-Video and composite video outputs are also provided if your TV does not have component video inputs.
- To connect the digital audio output from the TV, you can choose from either the coaxial or optical connections. If you choose to use the coaxial connection, it needs to be assigned. For more information about Digital Input Assignment (☞ page 89).



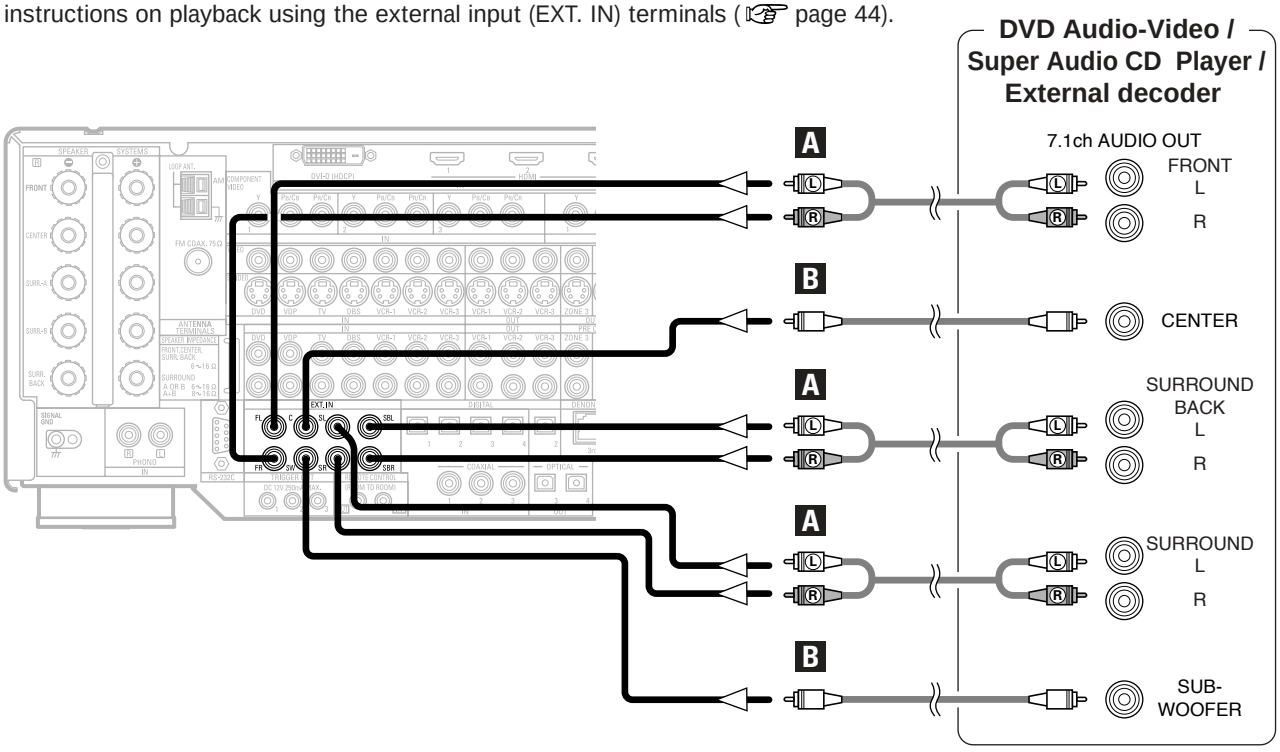
Connecting a DBS tuner

- For best picture quality choose the component video connection to your DBS tuner. S-Video and composite video outputs are also provided. If you choose to use the component video connection, it needs to be assigned. For more information about Component Input Assignment (☞ page 97).
- To connect the digital audio output from the DBS tuner, you can choose from either the coaxial or optical connections. If you choose to use the coaxial or the optical connection, if needs to be assigned. For more information about Digital Input Assignment (☞ page 89).



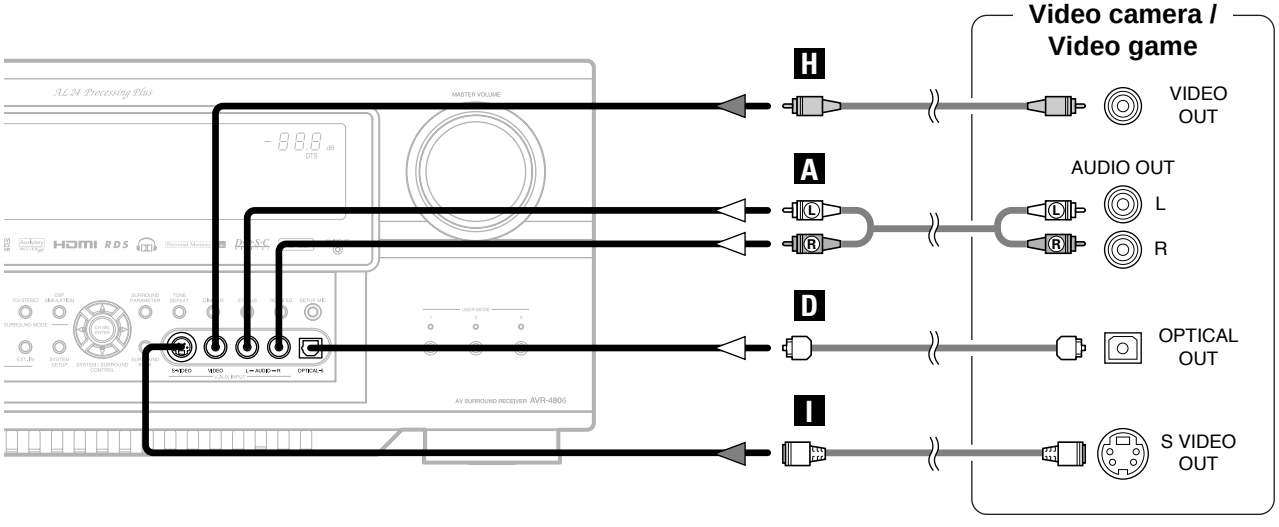
Connecting the external inputs (EXT. IN) terminals

- These terminals are for inputting multi-channel audio signals from an outboard decoder, or a component with a different type of multi-channel decoder, such as a DVD Audio player, or a multi-channel Super Audio CD player, or other future multi-channel sound format decoder.
- The method of video signal connection is the same as that for DVD player (☞ page 17).
- For instructions on playback using the external input (EXT. IN) terminals (☞ page 44).



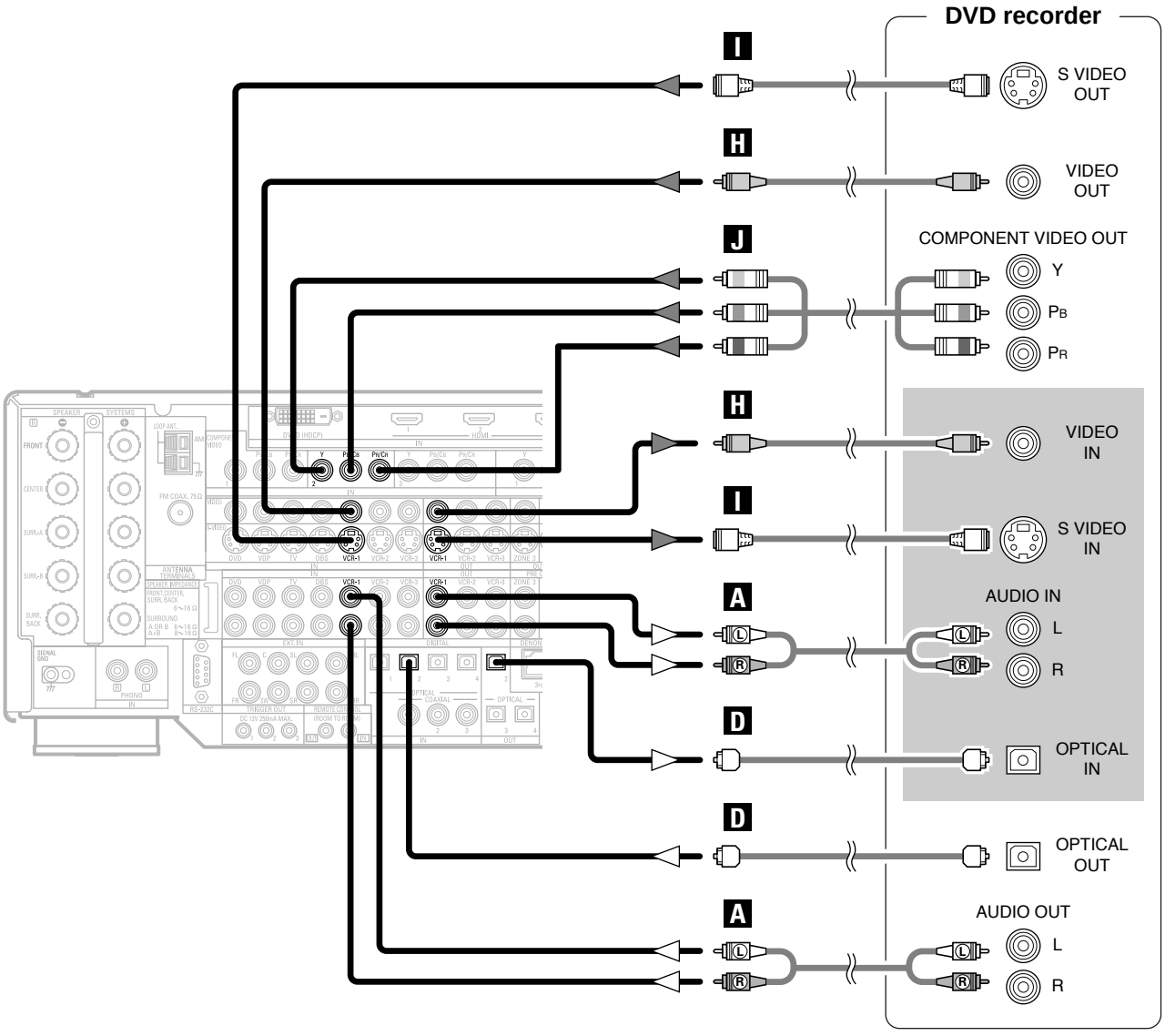
- Playback using the DENON LINK connector Digital transfer and multi-channel playback of DVD audio discs and other multi-channel sources is possible by connecting the AVR-4806 to a DENON DVD player equipped with a DENON LINK connector using the connection cable included with the DVD player.
- With discs on which special copyright protection measures have been taken, however, the digital signals may not be output from the DVD player. In this case, connect the DVD player's analog multi-channel output to the AVR-4806's EXT. IN terminals for playback. Also refer to your DVD player's operating instructions.

Connecting a video camera component or video game component



Connecting a DVD recorder

- For best picture quality choose the component video connection to your DVD recorder. S-Video and composite video outputs are also provided. If you choose to use the component video connection, it needs to be assign. For more information about Component Input Assignment (☞ page 97).
- If you wish to perform analog dubbing from a digital sources, such as a DVD recorder to an analog recorder such as a cassette deck, you will needs connect analog inputs and outputs as shown below, in addition to the digital audio connections.

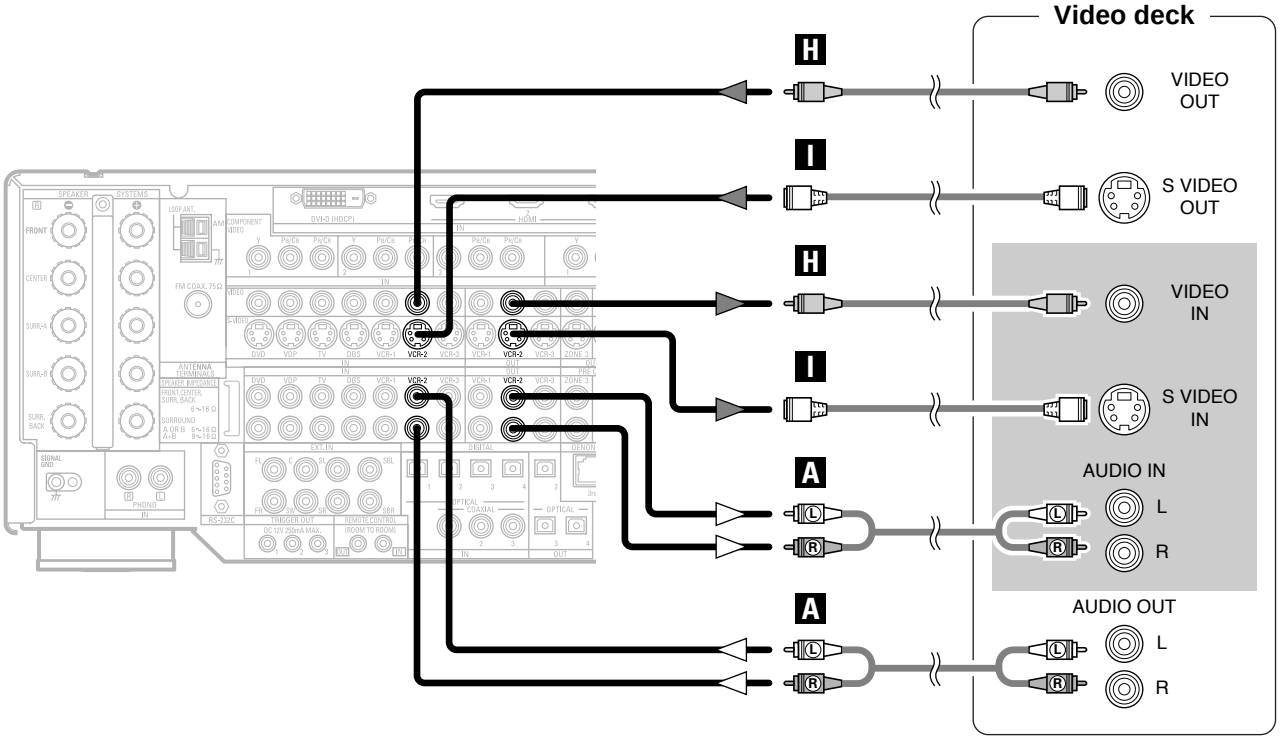


NOTE:

- When recording to DVD recorder, it is necessary that the type of cable used with the playback source equipment be the same type that is connected to the AVR-4806 VCR-1 (to 3) OUTPUT terminal.
  Example: VCR-1 IN → S-Video cable : VCR-1 OUT→ S-Video cable
  VCR-1 IN → Video cable : VCR-1 OUT→ Video cable
- Do not connect the output of the component connected to the OPTICAL 2 OUT terminal on the AVR-4806's rear panel to any terminal other than the OPTICAL 2 IN terminal.

Connecting a VCR

- There are three sets of video deck (VCR) terminals, so three video decks can be connected for simultaneous recording or video copying.

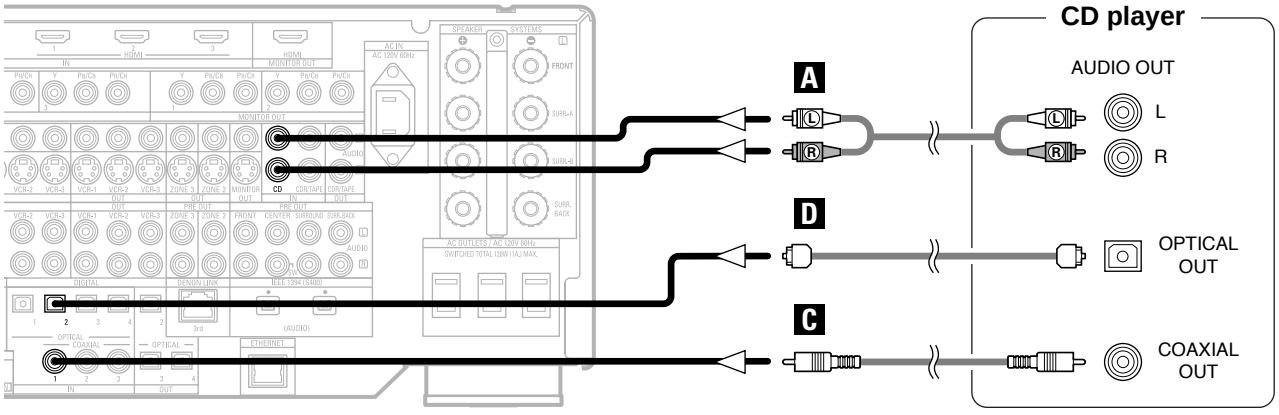


NOTE:

- When recording to VCR, it is necessary that the type of cable used with the playback source equipment be the same type that is connected to the AVR-4806 VCR-1 (to 3) OUTPUT terminal.
  Example: VCR-2 IN → S-Video cable : VCR-2 OUT→ S-Video cable
  VCR-2 IN → Video cable : VCR-2 OUT→ Video cable
- Do not connect the output of the component connected to the OPTICAL 3 OUT terminal on the AVR-4806's rear panel to any terminal other than the OPTICAL 3 IN terminal.

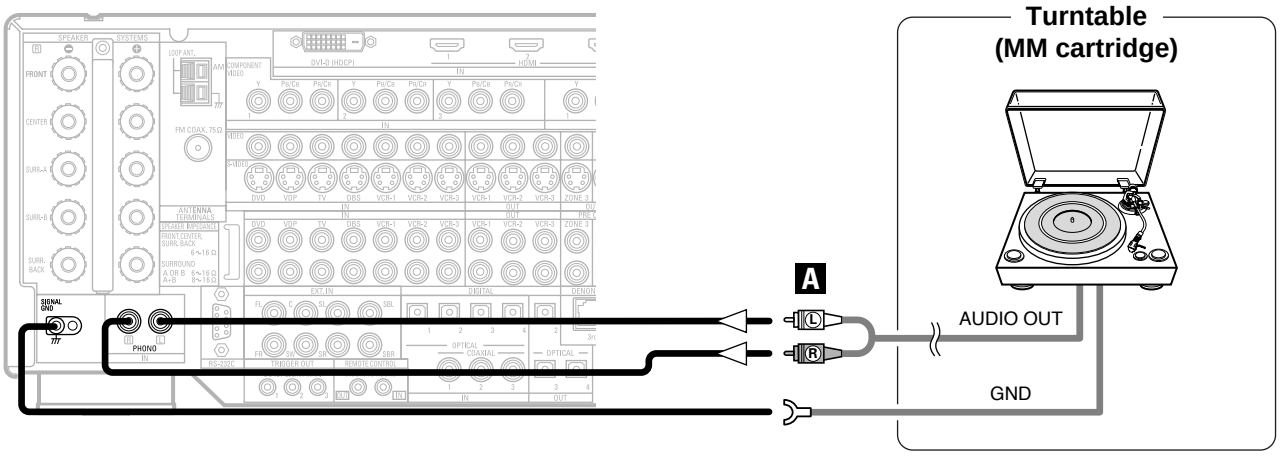
Connecting a CD player

- To connect the digital audio output from the CD player, you can choose from either the coaxial or optical connections. If you choose to use the optical connection, it needs to be assigned. For more information about Digital Input Assignment (☞ page 89).



Connecting a turntable

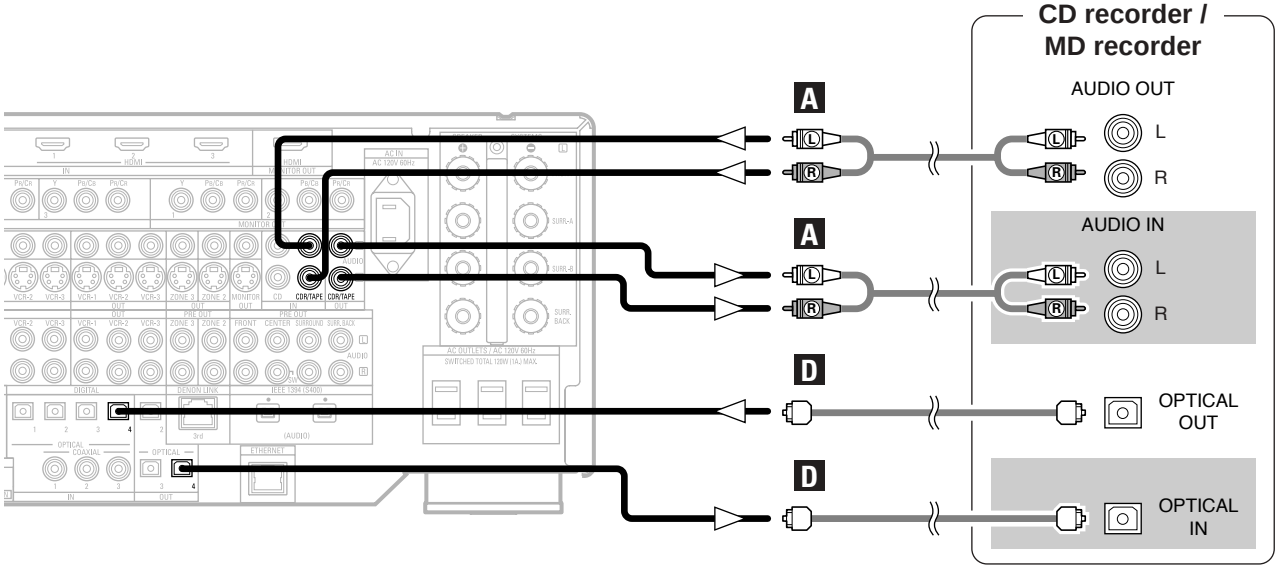
• You can connect the turntable (MM cartridge) to the PHONO terminals.



NOTE:
- The phono input can accept signals from moving magnet (MM) and high output moving coil (MC) phono cartridges. If your turntable is equipped with a low output MC cartridge, you will need to use a separate MC head amplifier or step-up MC transformer.
- If humming or other noise is generated when the ground wire is connected, disconnect the ground wire.

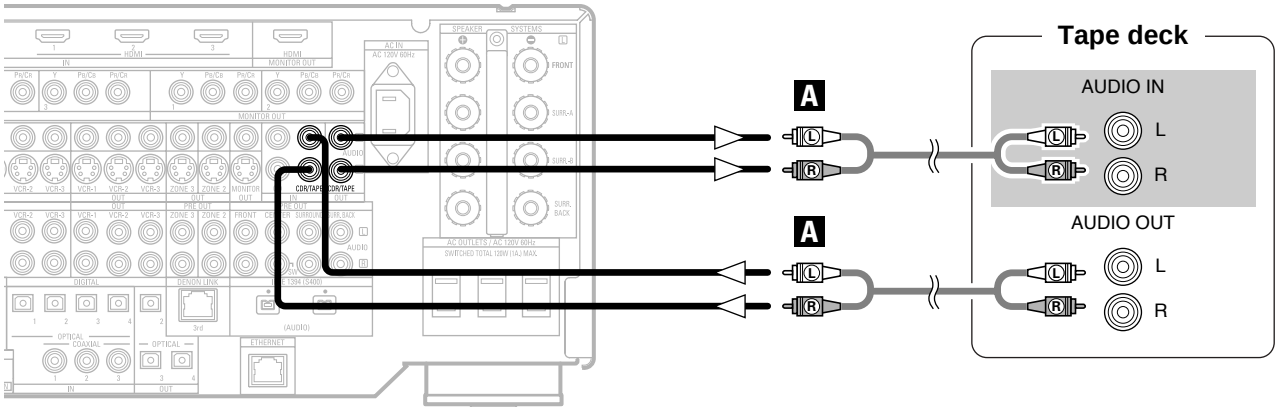
Connecting a CD recorder or MD recorder

• If you wish to perform analog dubbing from a digital source, such as a CD or MD recorder to an analog recorder such as a cassette deck, you will need to connect analog inputs and outputs as shown below, in addition to the digital audio connections.



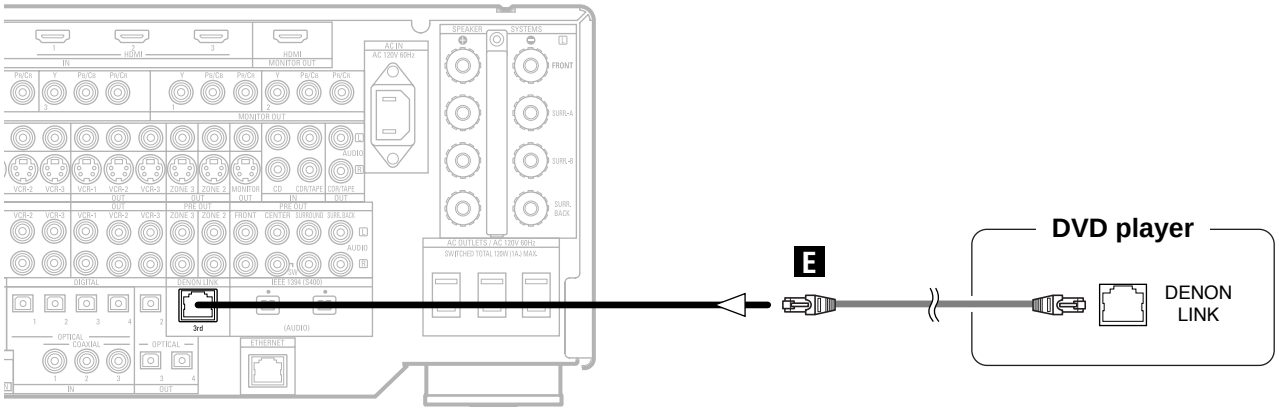
NOTE:
- Do not connect the output of the component connected to the OPTICAL 4 OUT terminal on the AVR-4806's rear panel to any terminal other than the OPTICAL 4 IN terminal.

Connectiong a tape deck



DENON LINK connections

- High quality digital sound with reduced digital signal transfer loss can be enjoyed by connecting a separately sold DENON LINK compatible DVD player.
- Digital transfer and multi-channel playback of DVD Audio discs and other multi-channel sources is possible by connecting the AVR-4806 to a DENON DVD player equipped with a DENON LINK connector using the connection cable included with the DVD player.
- When a DENON DVD player and the DENON LINK have been connected, be sure to make a setting to "DENON LINK" with the System Setup Digital In Assignment (☞ page 90).



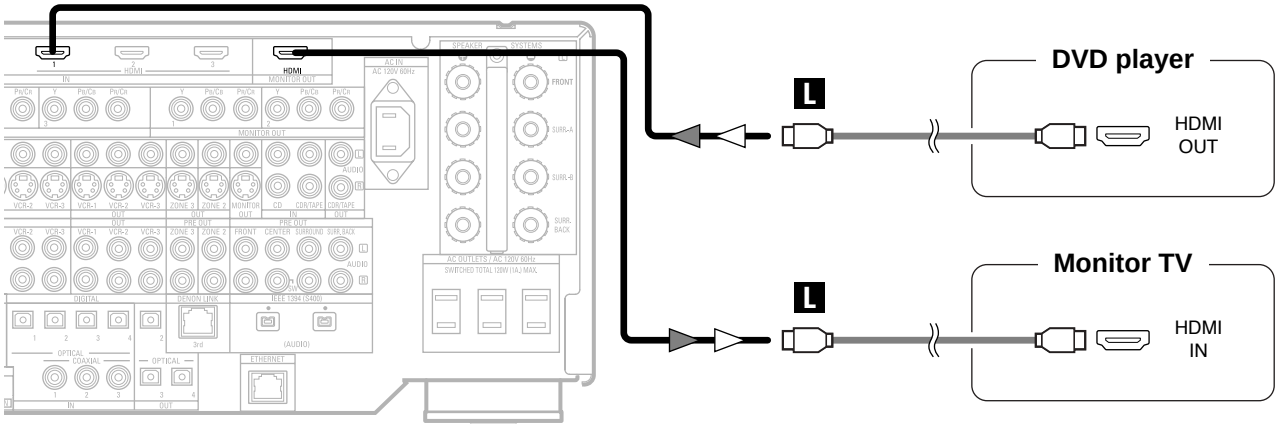
- With discs on which special copyright protection measures have been taken, however, the digital signals may not be output from the DVD player. In this case, connect the DVD player's analog multi-channel output to the AVR-4806's EXT. IN terminals for playback.
  Also refer to your DVD player's operating instructions.

■ **DENON LINK 3rd Edition:**

Super Audio CDs have certain rules for digital signal transfer designed to protect copyrights. In order to receive permission for the transfer of the multi-channel digital signals of Super Audio CDs, DENON has proposed to Super Audio CD licensors and content holders the DENON LINK (3rd Edition), and approval procedures are now underway. Once these approval procedures are completed and official approval for the digital transfer of Super Audio CD signals with DENON LINK is received, it will be possible to transfer the digital signals of Super Audio CDs to the AVR-4806 from players equipped with DENON LINK (3rd Edition).

Connecting equipment with HDMI (High-Definition Multimedia Interface) terminals

- A simple 1-cable connection (using a commercially available cable) with a device having an HDMI (High-Definition Multimedia Interface) connector allows digital transfer of the digital images of DVD video and other sources, and the multi-channel sound of DVD Audio and DVD Video.
- To provide audio output from AVR-4806's audio output connector, select "Amp" at the System Setup.
  To provide audio output from the TV, select "TV" at the System Setup. For details, see "Setting the HDMI/DVI In Assign" (☞ page 96, 97).



Input signals		
DVD Video	LINEAR PCM	○
	Dolby Digital	○
	DTS	○
DVD Audio	LINEAR PCM PACKED PCM (with CPPM / without CPPM)	○
CD	LINEAR PCM	○
Super Audio CD	Multi area	×
	Stereo area	×
	CD area	○

※ The AVR-4806 is HDMI Ver. 1.1 compatible.

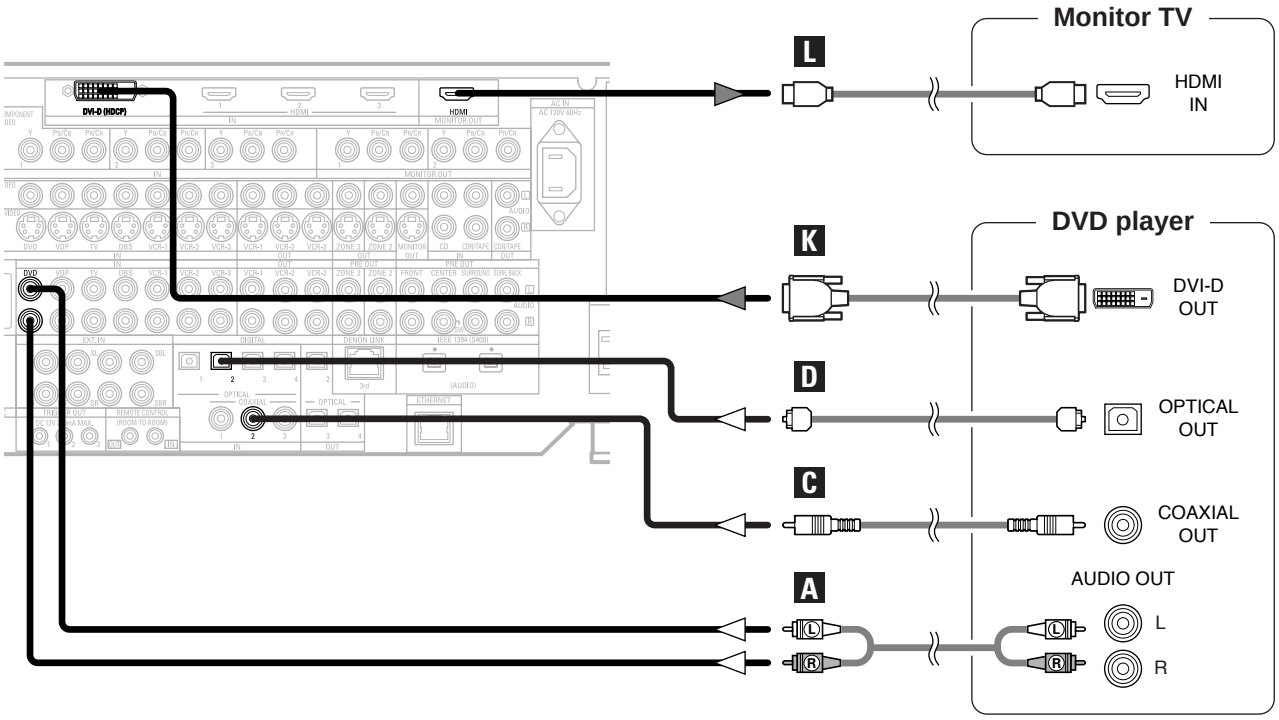
■ Copyright Protection System

To play back the digital video and audio of DVD video and DVD audio through an HDMI/DVI-D connection, both the connected player and monitor are required to support a copyright protection system called HDCP (High-bandwidth Digital Content Protection System). HDCP is copy protection technology that comprises data encryption and authentication of the partner equipment.
The AVR-4806 supports HDCP. Please see the user's manual of your video display for more information about this.

NOTE:
- The audio signals on the multi/stereo area of Super Audio CDs are not output. If the Super Audio CD is a hybrid CD, only the audio signals in the CD area are output.
- Use a compatible player to play DVD Audio discs that are copyright protected by CPPM.
- Among the devices that support HDMI, some devices can control other devices via the HDMI connector; however, the AVR-4806 cannot be controlled by another device via the HDMI connector.
- The audio signals from the HDMI connector (including the sampling frequency and bit length) may be limited by the equipment that is connected.
- The video signals are not output properly if a device not compatible with HDCP is used.
- Use an HDMI monitor compatible with an HDMI input resolution of 480i or 576i.
- The video signals input from the HDMI or DVI-D input terminals are output to the HDMI monitor with their original resolution, so the image will not be displayed if the resolutions of the input signal and the monitor being used are not matched. In this case, change the setting of the resolution on the source device (player) to one which the monitor can handle.
- For stable signal transfer, we recommend using cables that are a maximum of 5 meters in length.

Connecting equipment with DVI (Digital Visual Interface) terminals

- Connection with equipment that has a DVI (Digital Visual Interface)-D connector permits the transfer of digital images. Make an analog or digital audio connection also.



- When connecting via a DVI-D cable, no digital audio will be output from the HDMI Monitor Out connector.
- If your digital TV monitor only supports DVI-D, please obtain and use an HDMI-DVI conversion cable or adaptor, available from your dealer.

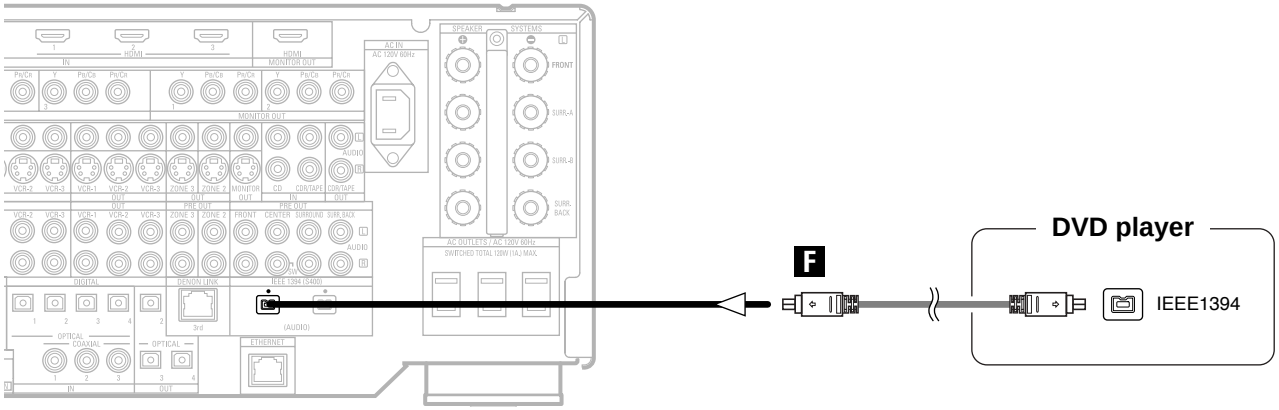
NOTE:
- Commercially-available DVI cables are available in 24-pin and 29-pin types. The AVR-4806 supports the 24-pin DVI-D cable.
- The AVR-4806 supports HDCP. Use an HDCP-compatible HDMI monitor.

■ Connections with an HDMI/DVI-D conversion cable (adapter)

- The HDMI video stream signals (video signals) are theoretically compatible with DVI-D. When connecting to a monitor, etc., equipped with DVI-D terminals, it is possible to connect using an HDMI/DVI-D conversion cable, but depending on the combination of devices used the image might not be output.
- When using an HDMI/DVI-D conversion adapter, the image may not be output properly due to poor contact with the connected cable, etc..
- For stable signal transfer, we recommend using cables that are a maximum of 5 meters in length.

Connecting IEEE1394 devices

- For the digital transfer of signals from Super Audio CDs and DVD-Audio discs, connect using an IEEE1394 cable. For instructions on playing Super Audio CDs (☞ page 84).
- Assign the IEEE1394 input the input source. For detailes, see "Setting the IEEE1394 Assign" (☞ page 92).



■ IEEE1394 network

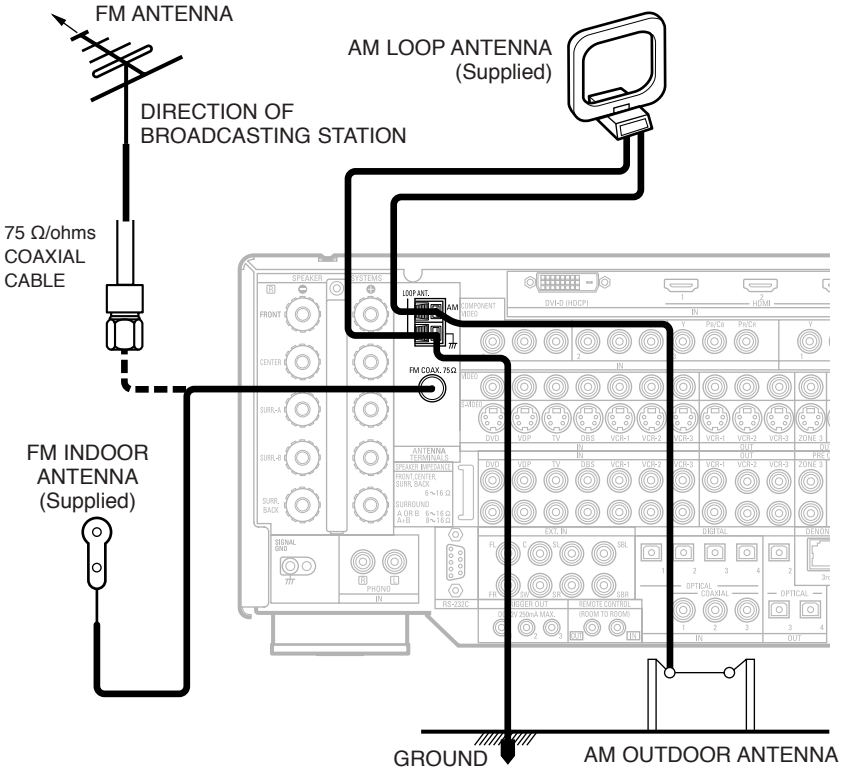
① Up to 17 devices can be connected using daisy chain type connections.
② Up to 63 devices can be connected using tree type connections.
Do not loop the connections.
③ "LINK CHECK" is displayed when an input source to which an IEEE1394 is assigned is selected and connection to the IEEE1394 device is being checked.
④ If the connection is looped, "LOOP CONNECT" is displayed. Check the connections and undo the loop.

NOTE:

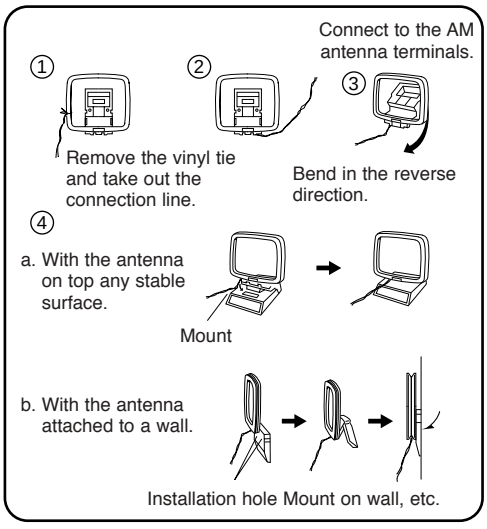
- The AVR-4806 will not operate when connected to equipment other than that conforming to "IEEE1394 AUDIO (A&M protocol)" standards or when connected to computer peripherals.
  Also please note that operation is not guaranteed even when connected to IEEE1394-compatible equipment. Whether or not data and control signals can be sent and received between interconnected IEEE1394-compatible equipment depends on the functions of the different equipment. Please read the operating instructions of the equipment to be connected.
- Use an S400-compatible 4-pin IEEE1394 cable to connect.
- Video signals are not transferred with the AVR-4806's IEEE1394 interface, so when connecting a video device connect the video signals as well.

Connecting the antenna terminals

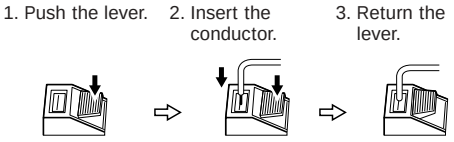
• An F-type FM antenna cable plug can be connected directly.



■ AM loop antenna assembly



Connection of AM antennas



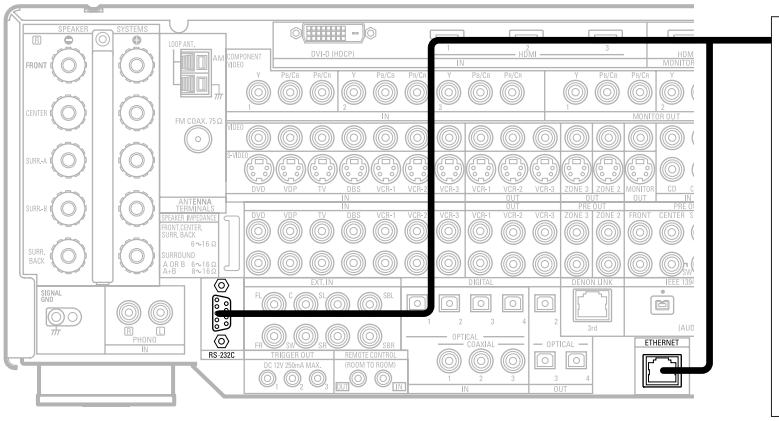
Note to CATV system installer

• This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE:

• Do not connect two FM antennas simultaneously.
• Even if an external AM antenna is used, do not disconnect the AM loop antenna.
• Make sure AM loop antenna lead terminals do not touch metal parts of the panel.

Connecting the CONTROL terminals

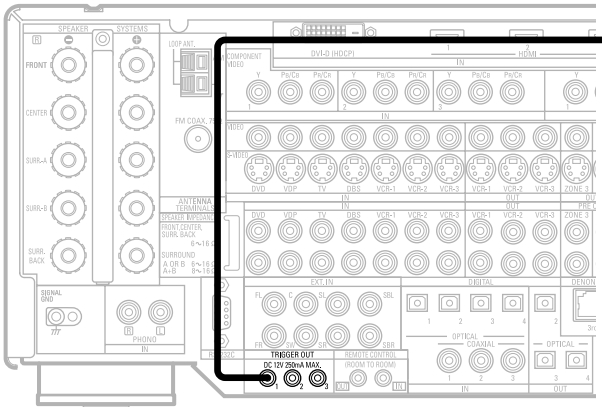


These terminals are used for an external controller.
Perform the following operation before using an external controller connected to the RS-232C terminal:

1. Press the **ON/STANDBY** button on the main unit and set the unit to the operating mode.
2. Perform the operation to turn off the power from the external control.
3. Check that the product has been set to the standby mode.

After checking the above, check the connections of the external controller. Operation is possible.

Connecting the TRIGGER OUT terminals



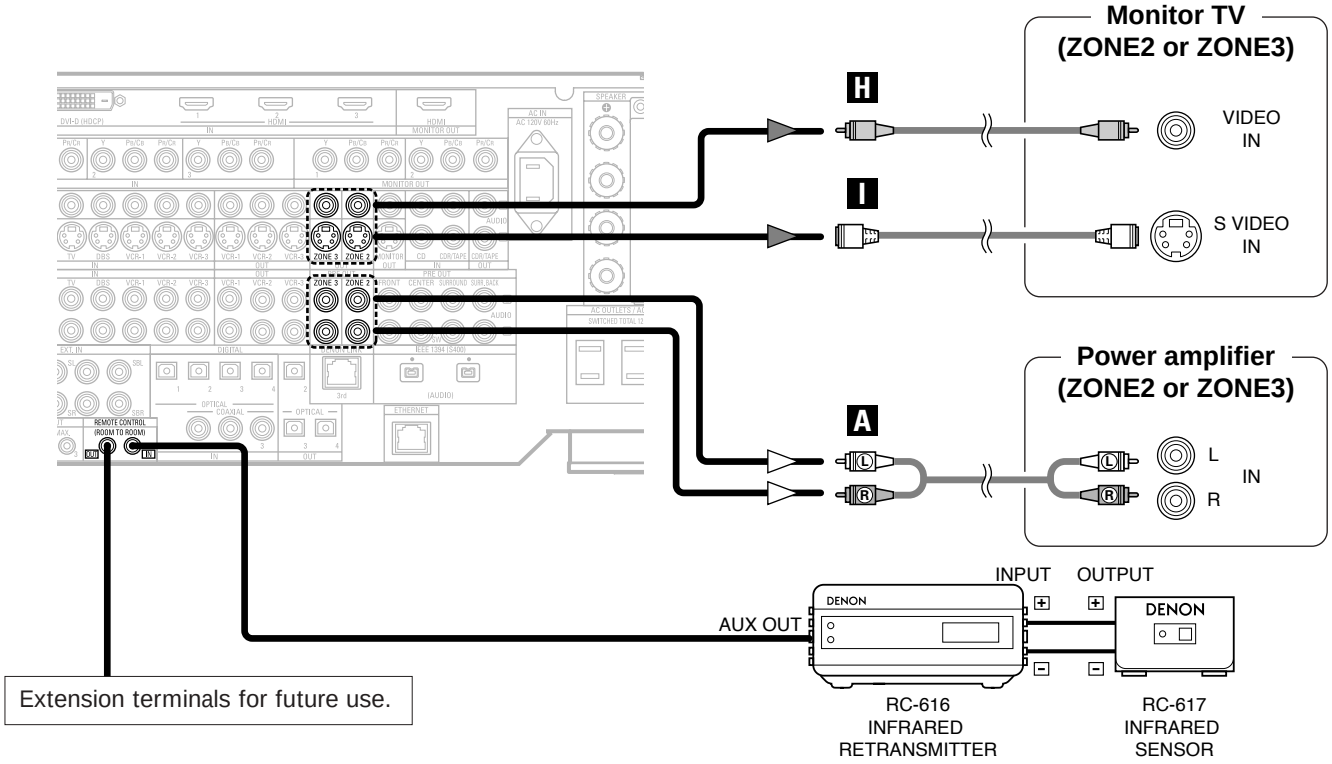
Turn the DC 12V voltage on and off for the individual functions and surround modes.
For details, see "Setting the Trigger Out" (☞ page 109).

Connecting the MULTI ZONE terminals

※ For instructions on operations using the MULTI ZONE functions (☞ page 80 ~ 83).

ZONE2 (or ZONE3) pre-out connections

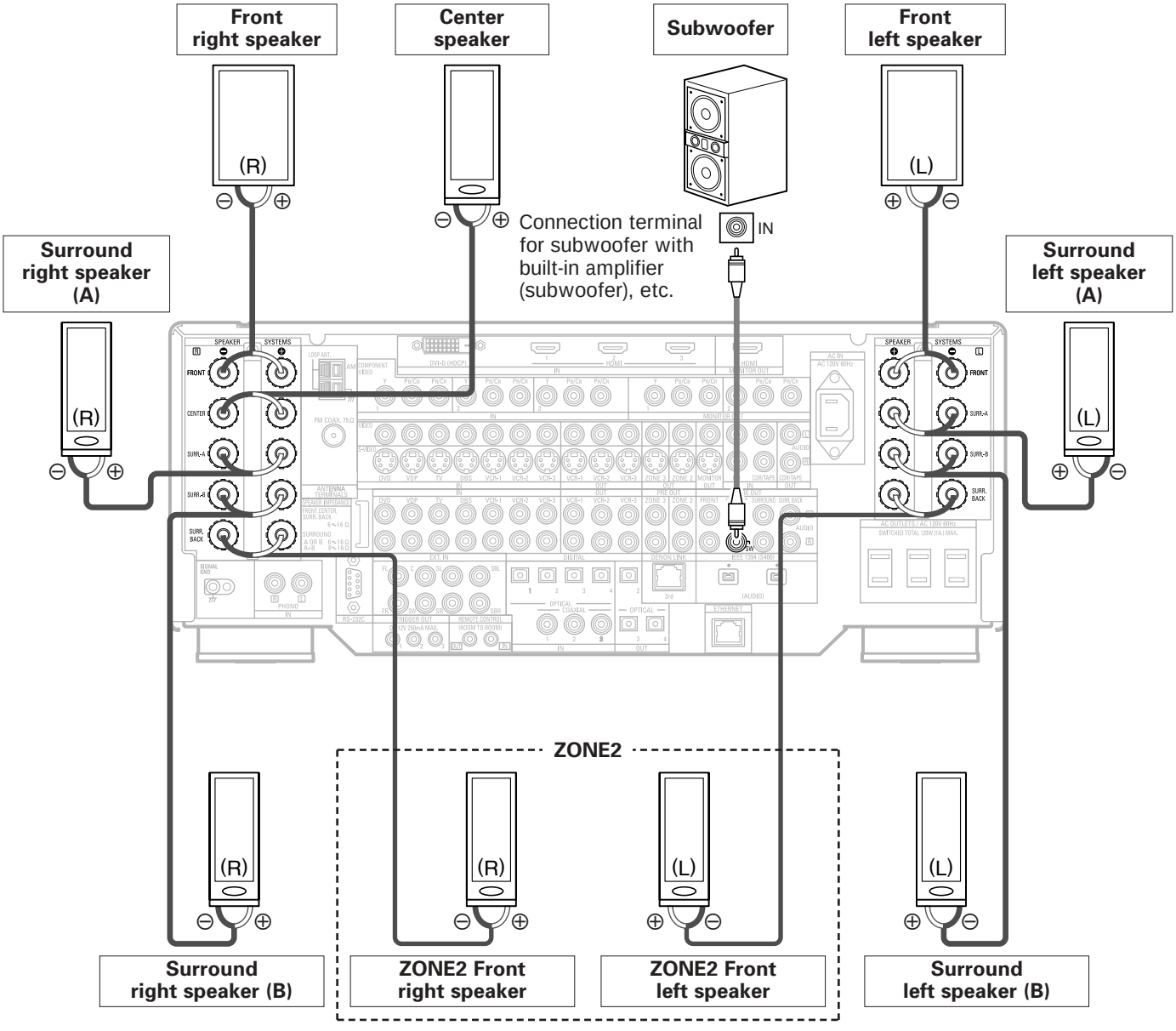
- If another power amplifier or pre-main (integrated) amplifier is connected, the ZONE2 (or ZONE3) pre-out (variable/fixed level) terminals can be used to play a different program source in ZONE2 (or ZONE3) the same time (☞ page 82, 83).
- The ZONE2 (or ZONE3) video out is only for the ZONE2 (or ZONE3).
- When a sold separately room-to-room remote control unit (DENON RC-616, 617 or 618) is wired and connected between the MAIN ZONE and ZONE2 (ZONE3), the remote-controllable devices in the MAIN ZONE can be controlled from ZONE2 (ZONE3) using the remote control unit.



NOTE:
- For the AUDIO output, use high quality pin-plug cables and wire in such a way that there is no humming or noise.
- For instructions on installation and operation of separately sold devices, refer to the devices' operating instructions.

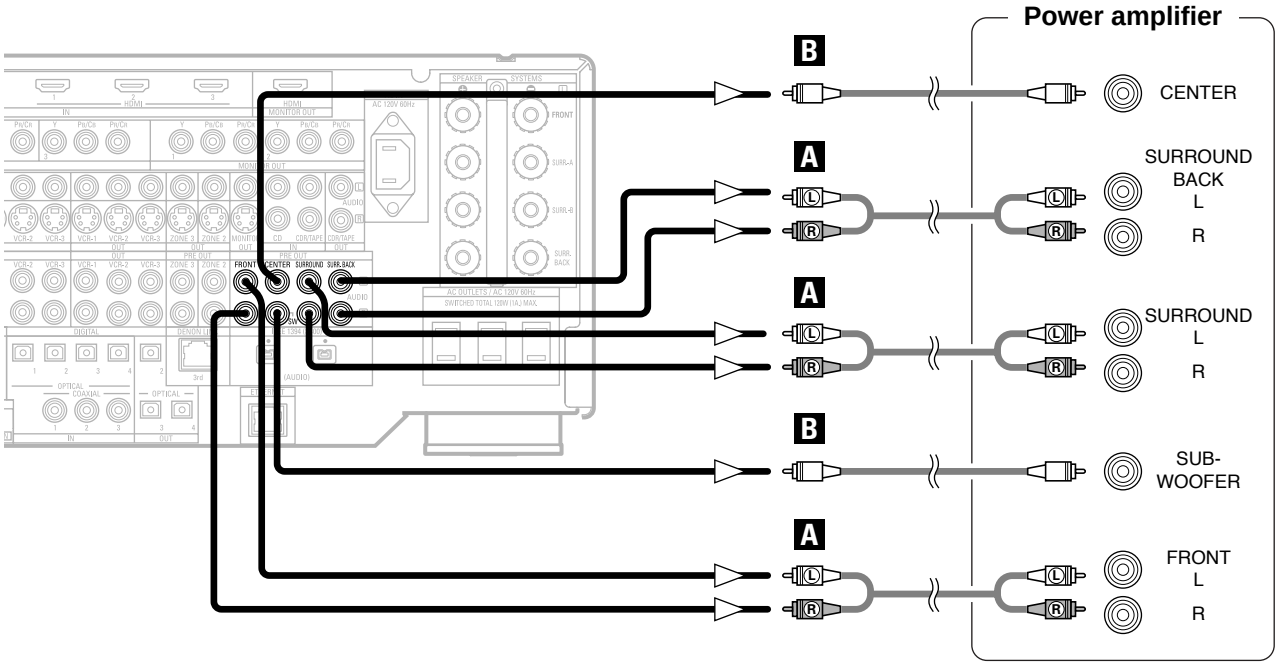
ZONE2/ZONE3 speaker out connections

- When the power amplifier is assigned to the ZONE2 or ZONE3 output channel at "Power Amp Assign" in the "System Setup Menu", the MAIN ZONE speaker terminals can be used as the ZONE2 or ZONE3 speaker out terminals (☞ page 106, 107).
- The connections diagram below is an example for when the surround back speaker is assigned to the ZONE2 stereo 2 channel. In this case, Surround Back Speaker OUT can not be used for MAIN ZONE.

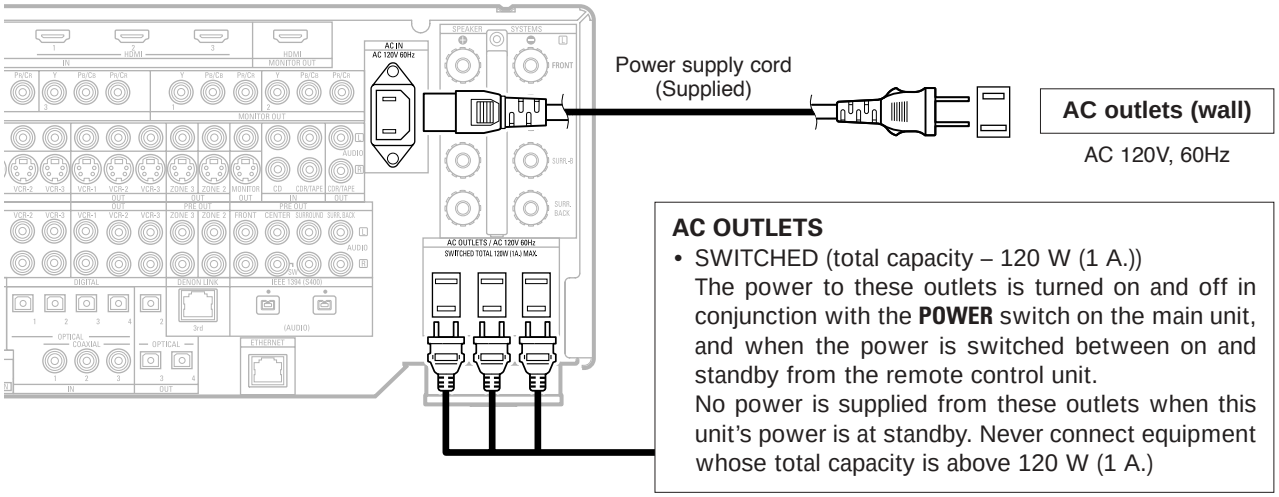


Connecting the pre-out terminals

- Use these terminals if you wish to connect external power amplifier(s) to increase the power of the front, center, surround and surround back sound channels, or for connection to powered loudspeakers.
- When using only one surround back speaker, connect it to left channel.



Connecting the power supply cord



AC OUTLETS

- SWITCHED (total capacity – 120 W (1 A.))
  The power to these outlets is turned on and off in conjunction with the **POWER** switch on the main unit, and when the power is switched between on and standby from the remote control unit.
  No power is supplied from these outlets when this unit's power is at standby. Never connect equipment whose total capacity is above 120 W (1 A.)

NOTE:

- Only use the AC OUTLETS for audio equipment. Never use them for hair driers, TVs or other electrical appliances.
- Insert the plugs securely. Incomplete connections will result in the generation of noise.

Basic Operation

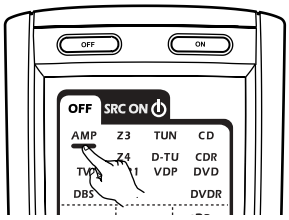
Playback

Operating the remote control unit

- The RC-995 remote control has a backlit LCD screen whose contents change according to the mode or function selected, with the appropriate remote commands for that mode or function.

■ Operate the this unit

The AMP button is the main mode for controlling the AVR-4806 in the main room (MAIN ZONE).



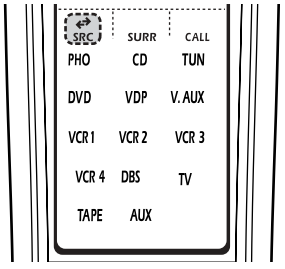
※ The function switches as shown below each time one of the **MODE SELECTOR** buttons is pressed.

AMP/Z2 : AMP, ZONE2
Z3/Z4 : ZONE3, ZONE4*
(* : This mode can not be used with the AVR-4806.)

■ SOURCE MENU

To operate the system's source components.

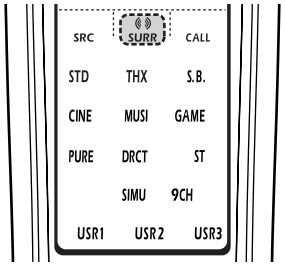
Press the SOURCE button to display the screen shown below, to that you can select an input source.



■ SURROUND MENU

To select specific surround modes.

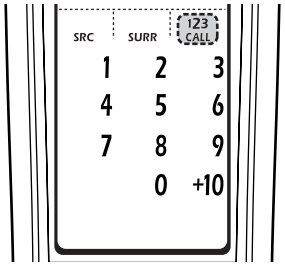
Press the SURROUND button to display the screen below to choose a specific surround mode.



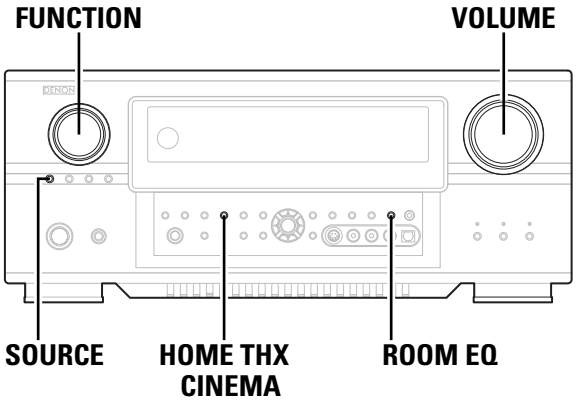
■ NUMBER/SYSTEM CALL MENU

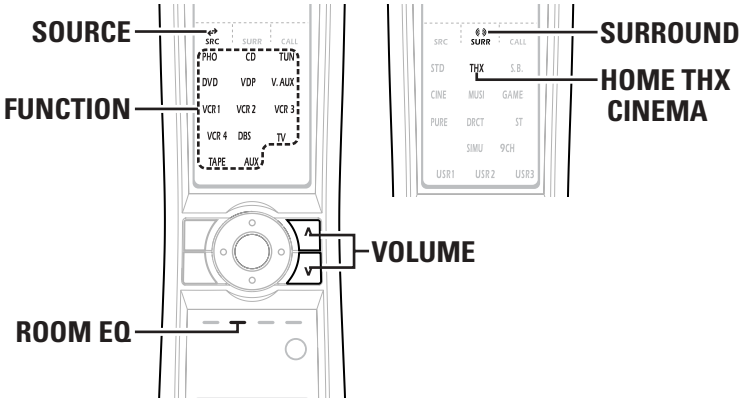
Operate the "Number/System call" menu function.

Press the NUMBER/SYSTEM CALL button to display the screen below.



- This function provides the ability to program a series of individual remote control codes into a macro stored under one of the number pad's numeric choices (☞ page 70 ~ 75).





Playing the input source

1 **Select the input source to be played.**

Example: CD

(Main unit) (Remote control unit) (Remote control unit)

※ To select the input source when ZONE2 SELECT, ZONE3/REC SELECT or TUNING PRESET is selected, press the **SOURCE** button on the main unit then operate the input function selector.

2 **Start playback on the selected component.**

※ For operating instructions, refer to the component's manual.

3 **Adjust the volume.**

(Main unit) (Remote control unit)

The volume level is displayed on the master volume level display.

※ The volume can be adjusted within the range of –80 to +18 dB, in steps of 0.5 dB. However, when the channel level is set (☞ page 64, 65 or 116 ~ 118), if the volume for any channel is set at +0.5 dB or greater, the volume cannot be adjusted up to 18 dB. (In this case the maximum volume adjustment range is "18 dB — (Maximum value of channel level)".)

■ To choose the surround sound mode

Example: THX Surround EX

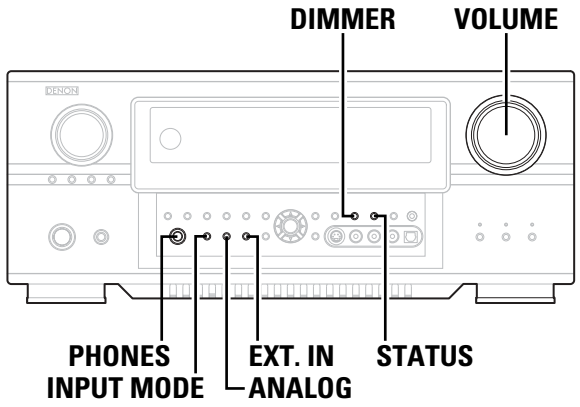
Press the SURROUND button, then press the HOME THX CINEMA button.

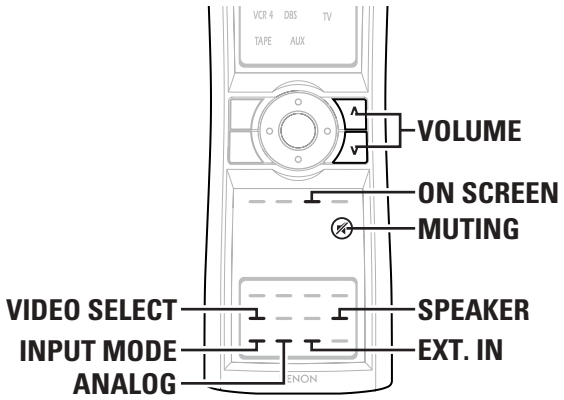
※ For more information about the surround modes (☞ page 50, 51).

■ To select the Room EQ function

Press the ROOM EQ button.

※ For more information about the Room EQ function (☞ page 47).





Playback using the external input (EXT. IN) terminals

Press the EXT. IN button to switch the external input.

- Cancelling the external input mode:
  Press the **INPUT MODE** or **ANALOG** button to switch to the desired input mode (☞ page 45, 46).
- The external input mode can be set for any input source. To watch video while listening to sound, select the input source to which the video signal is connected, then set this mode.
- If the subwoofer output level seems too high, set the "SW ATT" surround parameter to "ON".

NOTE:
- When the input mode is set to the external input (EXT. IN), the surround mode (DIRECT, STEREO, HOME THX CINEMA, STANDARD, 7CH STEREO, WIDE SCREEN or DSP SIMULATION) cannot be set.
- In play modes other than the external input mode, the signals connected to these terminals cannot be played. In addition, signals cannot be output from channels not connected to the input terminals.

Turning the sound off temporarily (MUTING)

- Use this to mute the audio output temporarily.

Press the MUTING button.
- You can adjust the muting level (☞ page 108).

- Cancelling MUTING mode:
  Press the **MUTING** button again, or press the **VOLUME** button on the remote control, or adjust the volume up or down via the front panel **VOLUME** knob.

Listening over headphone

Connect the headphone to the PHONES jack.
- The pre-out output (including the speaker output) is automatically turned off when headphones are connected.

NOTE:
- To prevent hearing loss, be careful not to raise the volume level excessively when using headphones.

Combining the currently playing sound with the desired image (VIDEO SELECT)

Press the VIDEO SELECT button until the desired image appears.

※ The video source selected with the video select function is stored in the memory for the different input sources.

- Cancelling simulcast playback:
  Select the "SOURCE" pressing the **VIDEO SELECT** button.
- It is not possible to select HDMI and DVI-D input signals.

Switching the surround speakers

Press the SPEAKER button.

※ The surround speakers switch as shown below each time the **SPEAKER** button is pressed.

SURROUND A → SURROUND B → SURROUND A+B → SURROUND A

※ This operation is possible when the setting for using both surround speakers A and B is made at "Speaker Configuration" (☞ page 113, 114).

Checking the currently playing program source, etc.

■ On screen display

Press the ON SCREEN button.

※ Each time an operation is performed, a description of that operation appears on the display connected to AVR-4806's VIDEO MONITOR OUT terminal. Also, the unit's operating status can be checked during playback.
※ Such information as the position of the input selector and the surround settings is output in sequence.

■ Front panel display

Press the STATUS button.

※ Descriptions of the unit's operations are also displayed on the front panel display. In addition, the display can be switched to check the unit's operating status while playing a source.

■ Using the dimmer function

• Use this to change the brightness of the display.

Press the DIMMER button.

※ The display brightness changes in four steps (bright, medium, dim and off).

Input mode

• The AVR-4806 has an AUTO signal detection mode that automatically identifies the type of incoming audio signals, but is also equipped with a manual mode that can be switched according to the type of input audio signals.

■ Selecting the AUTO, PCM and DTS modes

Press the INPUT MODE button.

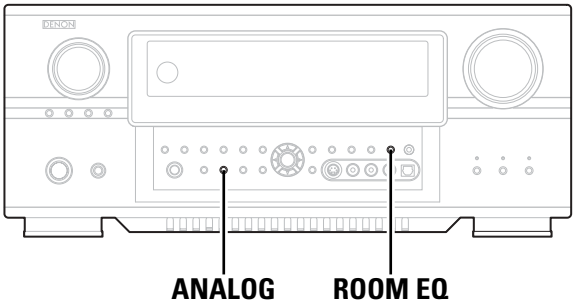
※ The mode switches as shown below each time the **INPUT MODE** button is pressed.

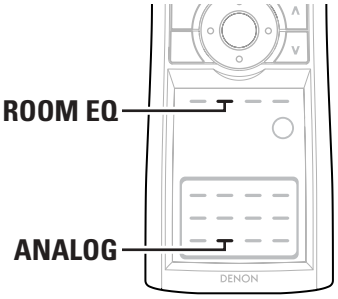
AUTO → PCM → DTS → AUTO

AUTO (All auto mode)**:**
In this mode, the types of signals being input to the digital and analog input terminals for the selected input source are detected and the program in the AVR-4806's surround decoder is selected automatically upon playback. This mode can be selected for all input sources other than PHONO and TUNER.
The presence or absence of digital signals is detected, the signals input to the digital input terminals are identified and decoding and playback are performed automatically in DTS, Dolby Digital or PCM (2 channel stereo) format. If no digital signal is being input, the analog input terminals are selected.
Use this mode to play Dolby Digital signals.

PCM (exclusive PCM signal playback mode)**:**
Decoding and playback are only performed when PCM signals are being input.
Note that noise may be generated when using this mode to play signals other than PCM signals.

DTS (exclusive DTS signal playback mode)**:**
Decoding and playback are only performed when DTS signals are being input.





■ Selecting the analog mode

Press the ANALOG button to switch to the analog input.

ANALOG (exclusive analog audio signal playback mode)**:**
The signals input to the analog input terminals are decoded and played.

NOTE:
- Input mode when playing DTS sources:
  Noise will be output if DTS-compatible CDs or LDs are played in the "ANALOG" or "PCM" mode.
  When playing DTS-compatible sources, be sure to connect the source component to the digital input terminals (OPTICAL/COAXIAL) and set the input mode to "DTS".

■ Input mode display

Depending on the input signal.

- In the AUTO mode

AUTO	PCM	DTS	AL24	DENON LINK	MULTI
ANALOG	EXT.IN	RF	V.OFF	IEEE 1394	REC

- In the DIGITAL PCM mode

AUTO	PCM	DTS	AL24	DENON LINK	MULTI
ANALOG	EXT.IN	RF	V.OFF	IEEE 1394	REC

- In the DIGITAL DTS mode

AUTO	PCM	DTS	AL24	DENON LINK	MULTI
ANALOG	EXT.IN	RF	V.OFF	IEEE 1394	REC

- In the ANALOG mode

AUTO	PCM	DTS
ANALOG	EXT.IN	RF

- In the EXT. IN mode

AUTO	PCM	DTS
ANALOG	EXT.IN	RF

■ Input signal display

- DOLBY DIGITAL

DD DIGITAL	
dts	AAC
DSD	PCM
DIG.	HDCD

- DTS

DD DIGITAL	
dts	AAC
DSD	PCM
DIG.	HDCD

- PCM

DD DIGITAL	
dts	AAC
DSD	PCM
DIG.	HDCD

Depending on the input signal.
- The "DSD" indicator lights when the DENON LINK or IEEE1394 have been connected and the DSD signals have been inputted (☞ page 34, 37).

Depending on the input signal.
- The "HDCD" indicator lights when digital signals are being input with a player that supports HDCD playback.

※ The "DIG." indicator lights when digital signals are being input properly. If the "DIG." indicator does not light, check whether the digital input component setup (☞ page 89, 90) and connections are correct and whether the component's power is turned on.

※ AL24 processing is activated when PCM signals are played while the surround mode is set to PURE DIRECT, DIRECT, STEREO, MULTI CH PURE DIRECT, MULTI CH DIRECT or MULTI CH IN.

NOTE:
- The "DIG." indicator will light when playing CD-ROMs containing data other than audio signals, but no sound will be heard.

Room EQ function

- The AVR-4806's Auto Setup / Room EQ function offers three correction curves: "Audyssey", "Front", "Flat". The timbre of the speakers can also be adjusted manually using a graphic equalizer.
  Details of the different correction curves are described below.

Audyssey:
This adjusts the frequency response of all speakers to correct the effects of room acoustics.

Front:
This adjusts the characteristics of each speaker to the characteristics of the front speakers.

Flat:
This the frequency response of all speakers flat.
This is suitable for multi-channel music reproduction, from discrete music sources such as Dolby Digital 5.1, DTS, DVD-Audio and Super Audio CD.

Manual:
Selects the setting value that was set in the Manual EQ Setup.
For details of the "Manual EQ Setup" (☞ page 103, 104).

Press the ROOM EQ button.

- The "Audyssey" is selected, the MultEQ XT indicator lights green.
- The "Front" or "Flat" is selected, the MultEQ XT indicator lights red.

※ The Room EQ switches as follows each time the **ROOM EQ** button is pressed.

→ OFF → Audyssey → Front → Flat → Manual →

※ The MultEQ XT indicator also lights red if the "Speaker Configuration", "Delay Time", "Channel Level" or "Crossover Frequency" is set manually after conducting the Auto Setup procedure.

- The "Audyssey", "Front" and "Flat" Room EQ curves can be selected after performing the Auto Setup procedure.

Surround

Playing modes for different sources

- The AVR-4806 is equipped with many surround modes. We recommend using the surround modes as described below in order to achieve the maximum effect for the specific signal source.

※ ▭ is a 6.1-channel/7.1-channel surround mode.

Sources recorded in Dolby Digital Surround EX

THX SURROUND EX (☞ page 51)
- Maximum performance for playing movies on the AVR-4806.

DOLBY DIGITAL EX / +PLⅡx[*2] (☞ page 53)
- This mode is optimized for playing sources recorded in Dolby Digital Surround EX.

Sources recorded in DTS-ES

DTS-ES DSCRT 6.1 / MTRX 6.1 / +PLⅡx[*2] (☞ page 53)
- This is the optimum mode for playing sources recorded in DTS-ES.

ES DSCRT 6.1+THX / ES MTRX 6.1+THX (☞ page 51)
- When playing movies, setting this mode sometimes results in a more natural sound. Select the mode as desired.

Dolby Digital or DTS Surround (5.1 ch sources) 2 ch sources recorded in Dolby Surround

THX Ultra2 CINEMA[*1] **/ THX MUSIC MODE**[*1] **/ THX Games Mode**[*1] **/ PLⅡx C+THX** (☞ page 51)
- These modes are suited for playing 5.1-channel sources in 7.1 channels. Select the desired surround mode for the movie and music sources.

WIDE SCREEN (☞ page 60, 61)
- Effective for 2-channel sources recorded in Dolby Surround or for 7.1-channel playback with 5.1-channel sources.

HOME THX CINEMA (THX 5.1) (☞ page 50)
- This mode is optimized for playing 5.1-channel movies.
- For sources recorded in Dolby Surround as well, this mode provides the same power as with 5.1-channel sources.

DOLBY DIGITAL / DOLBY DIGITAL+PLⅡx[*2] **/ DTS SURROUND / DTS 96/24 / DTS+PLⅡx**[*2] **/ DTS+NEO:6** (☞ page 53)
- This mode is optimized for playing 5.1-channel or 7.1-channel music.
- For Dolby Surround recording sources, Dolby Pro-Logic Ⅱ playback is conducted.

Sources recorded in stereo Sources recorded in monaural

PURE DIRECT (☞ page 49)
- By suspending all circuits and processes not required, analog input music playback can be played with optimum quality.

DIRECT / STEREO (☞ page 49)
- Effective for achieving pure playback.
- If there is no need for tone control or distribution of the low frequencies in function of the speaker configuration, select the DIRECT mode to achieve the best sound quality.

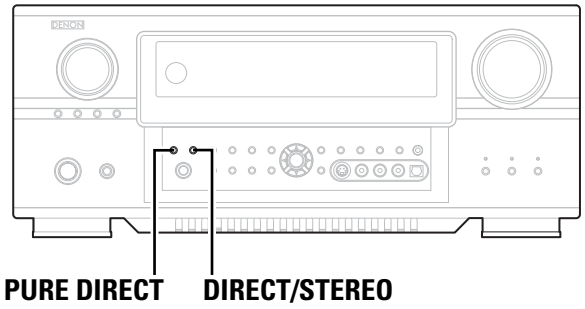
DENON Original Surround Modes (☞ page 60, 61)
- Select these for 7.1-channel playback with sources recorded in stereo or monaural.
- The effects are different for each of the surround modes. Select the one most suited for the source being used.

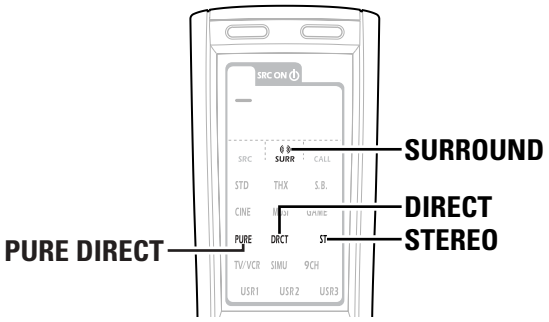
DTS NEO:6 (☞ page 57)
- This is a surround mode for playing 6.1- or 7.1-channel stereo sources developed by Digital Theater Systems.
- One of two playing modes, MUSIC (for music sources) or CINEMA (for movie sources), can be selected according to your preferences.

DOLBY PRO LOGIC Ⅱx[*2] (☞ page 55, 56)
- Developed by Dolby Laboratories, this surround mode provides 7.1 channel surround sound with conventional stereo (2-channel) sources.
- Select CINEMA mode for movie surround soundtracks, MUSIC for music sources, and GAME for 2-channel game box audio sources.

- Though we recommend selecting the surround mode as described above, other surround modes can also be selected.

NOTE:
- Surround modes indicated with an asterisk (*1) require the use of two surround back speakers.
- Surround modes marked with an asterisk (*2) cannot be used when the surround back speaker is set to "NONE".
- The "+PLⅡx Cinema" mode cannot be selected when only one surround back speaker is being used.





Playing audio sources (CDs and DVDs) 2-channel playback modes

- The AVR-4806 is equipped with three 2-channel playback modes exclusively for music.
- Select the mode to suit your tastes.

■ PURE DIRECT mode

This mode reproduces the sound with extremely high quality. When this mode is set, all circuits and processes not required for the selected input source (FL tube, video circuit and tone control, as well as digital circuitry and other unnecessary circuits for analog audio inputs) are automatically turned off so the music signals can be reproduced with high sound quality.

Press the PURE DIRECT button to select the PURE DIRECT mode.

■ DIRECT mode

Use this mode to achieve good quality 2-channel sound. In this mode, the audio signals bypass such circuits as the tone circuit and are transmitted directly, resulting in good quality sound.

Press the DIRECT/STEREO button to select the DIRECT mode.

※ The mode switches as shown below each time the **DIRECT/STEREO** button on the main unit is pressed.

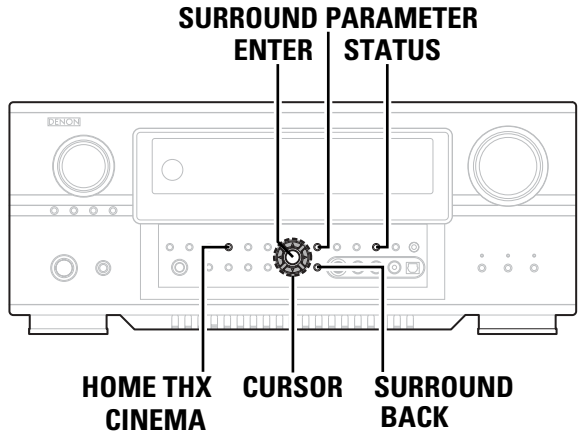
DIRECT ⟷ STEREO

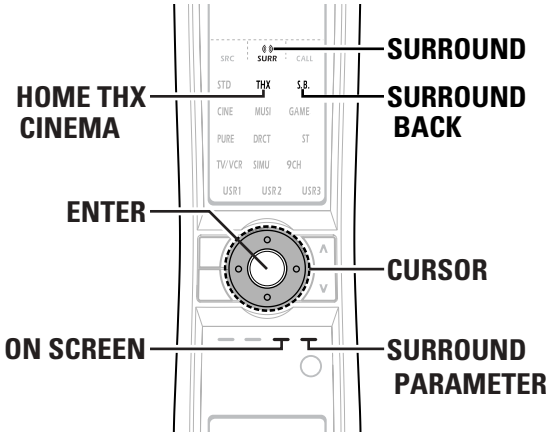
■ STEREO mode

Use this mode to adjust the tone and achieve the desired sound.

Press the DIRECT/STEREO button to select the STEREO mode.

- The system setup function cannot be used when the PURE DIRECT mode is set. To use the system setup function, cancel the PURE DIRECT mode.
- If the HDMI input terminal is selected, video outputs are outputted in the PURE DIRECT mode.
- The channel level and surround parameters in the PURE DIRECT mode are the same as in the DIRECT mode.





THX surround EX / Home THX cinema mode

- When the **HOME THX CINEMA** button is pressed, the surround mode is set as follows according to the signal that is played:
  ① THX Surround EX (THX Ultra2 Cinema)
  ② Home THX CINEMA (PLⅡx C + THX)
  ③ THX 5.1
  ④ ES DSCRT 6.1 +THX, ES MTRX 6.1 + THX

※ When the HOME THX CINEMA mode is set when a DVD is played, check the DVD player's digital output setting and change the setting to one for which Dolby Digital and DTS bit stream signals can be output ("bit stream", for example).

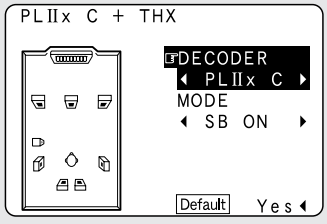
■ Playing sources recorded in Dolby Surround in the Home THX cinema surround mode

1 **Press the HOME THX CINEMA button to select the "Home THX Cinema" mode.**

2 **Play a program source with the DOLBY SURROUND mark.**

※ For operating instructions, refer to the manuals of the respective components.

3 **Press the SURROUND PARAMETER button.**
• Display the "Surround Parameter" menu.



4 **Press the CURSOR △ or ▽ button to select the parameter.**

5 **Press the CURSOR ◁ or ▷ button to select the setting.**

6 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

■ Surround parameters ①

DECODER:

Select the decoder to be used when playing 2-channel sources in the Home THX Cinema mode.

- **PLⅡx C:**
  The signals are decoded in the Dolby Pro Logic Ⅱx Cinema mode before undergoing THX processing.
- **PLⅡ C:**
  The signals are decoded in the Dolby Pro Logic Ⅱ Cinema mode before undergoing THX processing.
- **PL:**
  The signals are decoded in the Dolby Pro Logic mode before undergoing THX processing.
- **NEO:6 C:**
  The signals are decoded in the NEO:6 Cinema mode before undergoing THX processing.

MODE/SB CH OUT:

Select the surround back channel playback method or mode.

- **ON:**
  This is the recommended play mode for using the surround back channel when DTS NEO:6 is selected.
- **OFF:**
  This is the recommended play mode when Dolby Pro Logic Ⅱ is selected. The surround back channel is not played.

■ Checking the input signal

- The input signal can be checked by pressing the remote control unit's **ON SCREEN** button (☞ page 45).

SIGNAL:

Displays the type of signal (DTS, DOLBY DIGITAL, PCM, etc.).

fs:

Displays the input signal's sampling frequency.

FORMAT:

Displays the input signal's number of channels.
"Number of front channels/Number of surround channels/LFE on/off"
"SURROUND" is displayed for 2-channel signal sources recorded in Dolby Surround.

OFFSET:

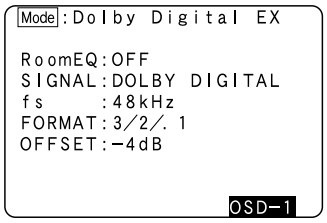
Displays the dialog normalization offset value (☞ page 54).

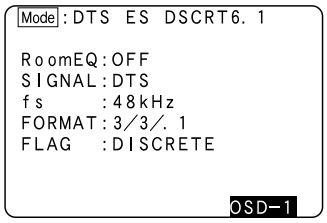
FLAG:

Displays the special identification signal recorded in the input signal (☞ page 52).
"MATRIX" is displayed when matrix processing is conducted on the surround back channel, "DISCRETE" is displayed when discrete processing is conducted.
Not displayed when no identification signal is recorded.

- In addition, screen information is displayed in the following order when the **ON SCREEN** button is pressed repeatedly:

OSD-1	Audio input signal
OSD-2	Monitor information
OSD-3	Input/output
OSD-4	Auto surround mode
OSD-5	USER MODE 1
OSD-6	USER MODE 2
OSD-7	USER MODE 3
OSD-8~14	Tuner preset stations





NOTE:

- OSD-2:
  The monitor's resolution is displayed when an HDMI monitor is connected to the AVR-4806.
- OSD-4:
  This is displayed when the auto surround mode is set to "ON" (☞ page 102) and the input mode is set to "AUTO".
  It is not displayed when the input mode is set to "ANALOG" or "EXT. IN".

■ To play in the THX Surround EX/Home THX Cinema Surround mode for sources recorded in Dolby Digital or DTS

1 Press the HOME THX CINEMA button to select the "Home THX Cinema" mode.

2 Play a program source with the DOLBY DIGITAL, dts mark.

- The Dolby Digital indicator lights when playing Dolby Digital sources.
- The DTS indicator lights when playing DTS sources.

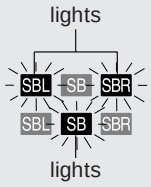
lights

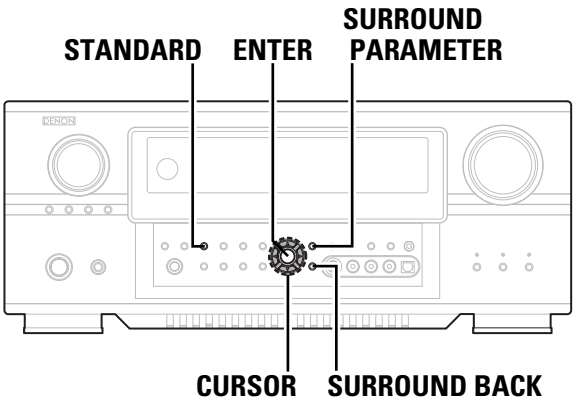
lights

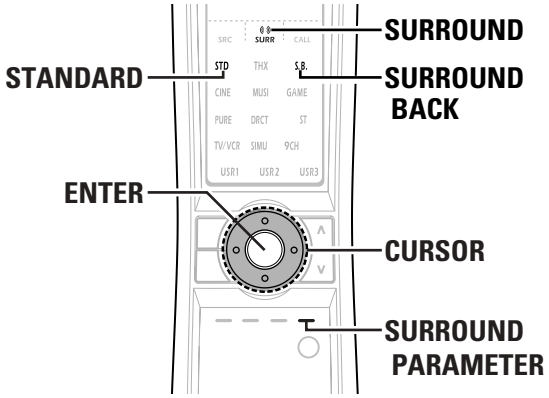
※ For operating instructions, refer to the manuals of the respective components.

※ The channel status information during playback of Dolby Digital and DTS sources can be checked pressing the **STATUS** button on the main unit.

※ Press the **SURROUND BACK** button. Lights when the Surround Back CH is on.







■ Surround parameters ②

MODE/SB CH OUT:

Select the surround back channel playback method or mode.

(1) (Multi channel source)

THX Surround EX:

Dolby Digital signals are played in the "THX Surround EX" mode.

Ultra2 Cinema:

The signals are played in the THX Ultra2 Cinema mode.

Music Mode:

The signals are played in the THX Music mode.

Games Mode:

The signals are played in the THX Games mode.

NON MTRX:

The same signals as those of the surround channels are output from the surround back channels.

MTRX ON:

The surround channel signals undergo digital matrix processing and are output from the surround back channels.

SB OFF (OFF):

No signal is played from the surround back channels.

ES MTRX:

When playing DTS signals, the surround back signals undergo digital matrix processing for playback.

ES DSCRT:

When a signal identifying the source as a discrete 6.1-channel source is included in the DTS signals, the surround back signals included in the source are played.

PLⅡx Cinema:

Processing is performed with the Cinema mode of the PLⅡx decoder and the surround back channel is reproduced.

PLⅡx Music:

Processing is performed with the Music mode of the PLⅡx decoder and the surround back channel is reproduced.

(2) (2ch source)

OFF:

Playback is conducted without using the surround back speaker.

ON:

Playback is conducted using the surround back speaker.

※ This operation can be performed directly pressing the **SURROUND BACK** button.

AFDM (Auto Flag Detect Mode):

- **ON:**

  This function only works with software on which a special identification signal is recorded. This software is scheduled to go on sale in the future.

  This is a function for automatically playing in the 6.1-channel mode using the surround back speaker(s) if the software is recorded in Dolby Digital EX or DTS-ES or in the normal 5.1-channel mode without using the surround back speaker(s) when the software is not recorded in Dolby Digital EX or DTS-ES.

  When AFDM is set to "ON" and the EX/ES flag is detected automatically, the surround mode is fixed according to the playing program source.

  In this case, the "MODE/SB CH OUT" parameter can not be selected on the surround parameter screen.

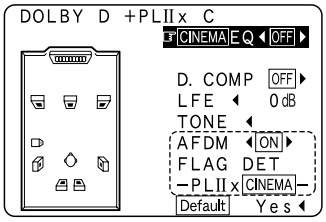
- **OFF:**

  When the identification signal is detected automatically and you would like to select the surround mode freely, set AFDM to "OFF".

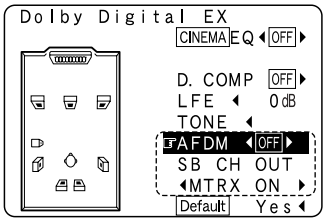
  In this case, the "MODE/SB CH OUT" parameter can be selected on the surround parameter screen regardless of the playing program source.

Example: When playing software that has a Dolby Digital EX flag

① When AFDM is set to "ON", the surround mode is automatically set to the "DOLBY DIGITAL + PLIIx CINEMA" mode. The surround parameter screen shown at the below is displayed.



② When you would like to play back with the "Dolby Digital EX" mode, set AFDM to "OFF" and select "MTRX ON" with "SB CH OUT".



Dolby Digital mode and DTS Surround (only with digital input)

1 **Press the STANDARD button to select the "STANDARD (Dolby/DTS Surround)" mode.**

2 **Play a program source with the DOLBY DIGITAL, dts mark.**

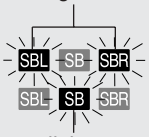
- The Dolby Digital indicator lights when playing Dolby Digital sources.
- The DTS indicator lights when playing DTS sources.

lights

lights

※ Press the **SURROUND BACK** button. Lights when the Surround Back CH is on.

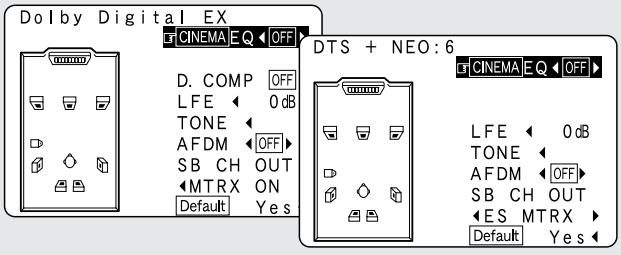
lights



lights

3 **Press the SURROUND PARAMETER button.**

- Display the "Surround Parameter" menu.



4 **Press the CURSOR △ or ▽ button to select the parameter.**

5 **Press the CURSOR ◁ or ▷ button to select the setting.**

6 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

- When "Default" is selected and the **CURSOR** ◁ button is pressed, "CINEMA EQ." and "D.COMP." are automatically turned off, "LFE" is reset, and "TONE" is set to the default value.

■ Surround parameters ③

CINEMA EQ. (Cinema Equalizer)**:**

The Cinema EQ function gently decreases the level of the extreme high frequencies, compensating for overly-bright sounding motion picture soundtracks. Select this function if the sound from the front speakers is too bright.

This function only works in the Dolby Pro Logic Ⅱx, Dolby Pro Logic, Dolby Digital, DTS Surround, DTS NEO:6 and WIDE SCREEN modes.

D.COMP. (Dynamic Range Compression)**:**

Motion picture soundtracks have tremendous dynamic range (the contrast between very soft and very loud sounds). For listening late at night, or whenever the maximum sound level is lower than usual, the Dynamic Range Compression allows you to hear all of the sounds in the soundtrack (but with reduced dynamic range). (This only works when playing program sources recorded in Dolby Digital or DTS.) Select one of the four parameters ("OFF", "LOW", "MID" (middle) or "HI" (high)). Set to OFF for normal listening.

This parameter is displayed only when playing compatible sources in DTS mode.

LFE (Low Frequency Effect)**:**

This sets the level of the LFE (Low Frequency Effect) sounds included in the source when playing program sources recorded in Dolby Digital or DTS.

Program source and adjustment range:

1. Dolby Digital: –10 dB to 0 dB
2. DTS Surround: –10 dB to 0 dB

※ **When DTS encoded <u>movie</u> software is played, it is recommended that the LFE LEVEL be set to 0 dB for correct DTS playback.**

※ **When DTS encoded <u>music</u> software is played, it is recommended that the LFE LEVEL be set to –10 dB for correct DTS playback.**

TONE:

This adjusts the tone control (☞ page 63).

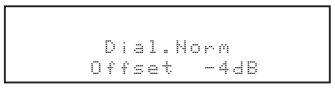
This can be set individually for the separate surround mode other than PURE DIRECT, DIRECT and Home THX Cinema mode.

■ Dialogue Normalization

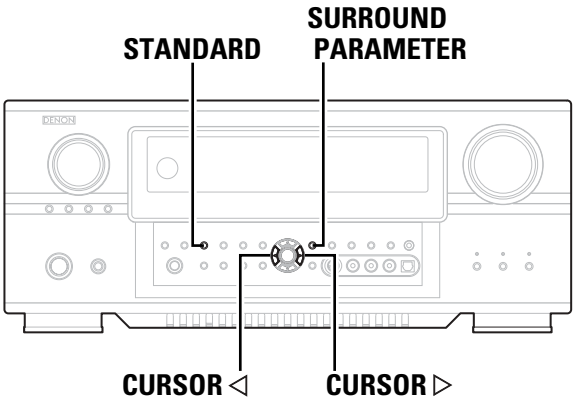
The dialogue normalization function is activated automatically when playing Dolby Digital program sources. Dialogue normalization is a basic function of Dolby Digital which automatically normalizes the dialog level (standard level) of the signals which are recorded at different levels for different program sources, such as DVD, DTV and other future formats that will use Dolby Digital.

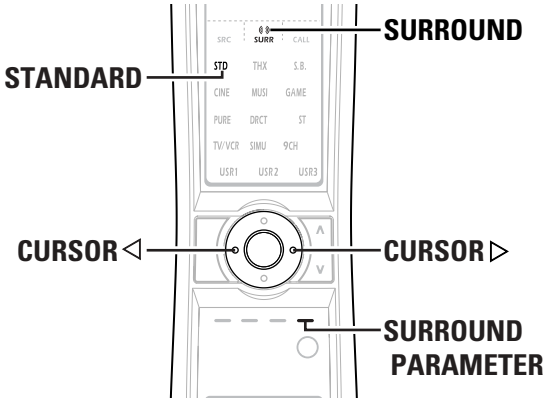
When this function is activated, the following message appears on the main unit's display:

Display



The number indicates the normalization level when the currently playing program is normalized to the standard level.





Dolby Pro Logic IIx (Pro Logic II) mode

- To play in the PLIIx mode, set "Sp.Back" at the Speaker Configuration setting to "1spkr" or "2spkrs".
- To play in the PLIIx mode, set "Surround Back" at the Power Amp Assign setting.

1 Press the STANDARD button to select the "Dolby Pro Logic IIx" mode.

- The Dolby Pro Logic indicator lights.

※ The mode switches as shown below each time the **STANDARD** button is pressed.

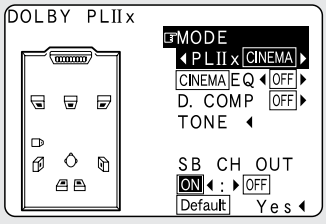
DOLBY PLIIx ⟷ DTS NEO:6

2 Play a program source with the DOLBY SURROUND mark.

※ For operating instructions, refer to the manuals of the respective components.

3 Press the SURROUND PARAMETER button.

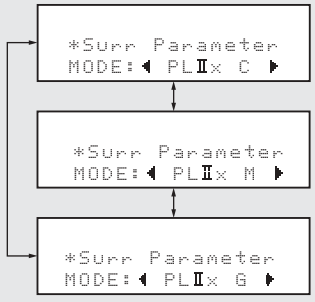
- Display the "Surround Parameter" menu.



4 Press the CURSOR ◁ or ▷ button to select the play mode.

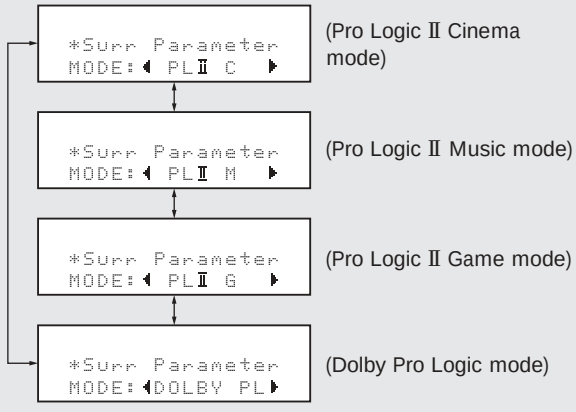
※ When the "SB CH OUT" parameter is set to "ON". (Set "SP.Back" at the System Setup to "1spkr" or "2spkrs").

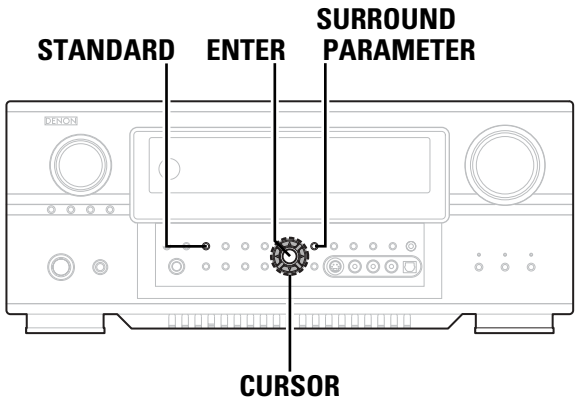
Display

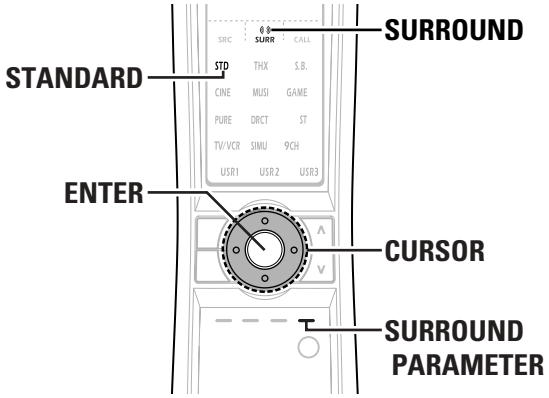


※ When the "SB CH OUT" parameter is set to "OFF". (Set "SP.Back" at the System Setup to "None").

Display

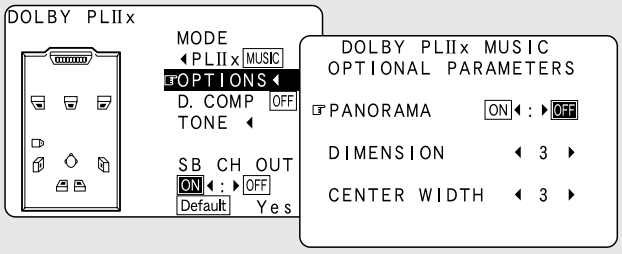






5 Press the CURSOR △ or ▽ button to select the various surround parameters.

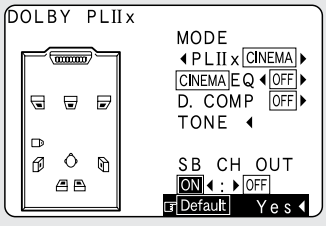
Example: DOLBY PLⅡx music mode screen



※ When set with the on screen display using the remote control unit while in the MUSIC mode, set the "☞" mark to "OPTIONS ◀" pressing the **CURSOR** △ or ▽ button, then press the **CURSOR** ◁ button.
Press the **ENTER** button to return to the previous screen.

6 Press the CURSOR ◁ or ▷ button to adjust the parameters setting.

※ **DEFAULT setting:**
Press the CURSOR ◁ button to select "Default Yes ◀", then parameters set to default setting.



7 Press the ENTER or SURROUND PARAMETER button to complete the setting.

- There are four Dolby Surround Pro Logic modes (NORMAL, PHANTOM, WIDE and 3 STEREO). The AVR-4806 sets the mode automatically according to the types of speakers set during the system setup process (☞ page 113, 114).

■ Surround parameters ④

Pro Logic Ⅱx and Pro Logic Ⅱ Mode:
Select one of the modes ("Cinema", "Music", "Pro Logic" or "Game").
The Cinema mode is for use with stereo television shows and all programs encoded in Dolby Surround.
The Music mode is recommended for stereo music and surround-encoded stereo music sources.
The Pro Logic mode emulates Dolby Laboratories' original Dolby Pro Logic surround decoding, and may provide better results with older, legacy surround-encoded program material.
The Game mode is optimized for computer and/or dedicated game box consoles, that feature stereo analog or digital outputs. It can only be used with 2-channel stereo sources.

PANORAMA:
This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging.
Select "OFF" or "ON".

DIMENSION:
This control gradually adjust the soundfield either towards the front or towards the rear.
The control can be set in 7 steps from 0 to 6.

CENTER WIDTH:
This control adjust the center image so it may be heard only from the center speaker; only from the left/right speakers as a phantom image; or from all three front speakers to varying degrees.
The control can be set in 8 steps from 0 to 7.

DTS NEO:6 mode

- Surround playback can be performed for the analog input and digital input 2-channel signals.

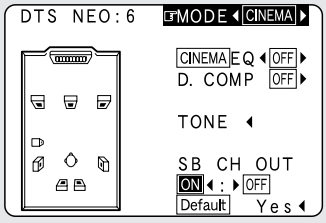
1 **Press the STANDARD button to select the "DTS NEO:6" mode.**
- The DTS NEO:6 indicator lights.

※ The mode switches as shown below each time the **STANDARD** button is pressed.

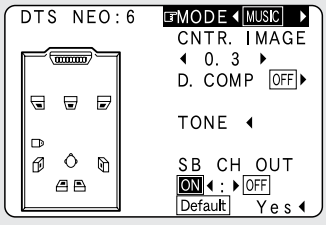
DOLBY PLIIx ⟷ DTS NEO:6

2 **Play a program source.**

3 **Press the SURROUND PARAMETER button.**
- Display the "Surround Parameter" menu.



4 **Press the CURSOR ◁ or ▷ button to select the play mode.**



5 **Press the CURSOR △ or ▽ button to select the various surround parameters.**

6 **Press the CURSOR ◁ or ▷ button to adjust the parameters setting.**

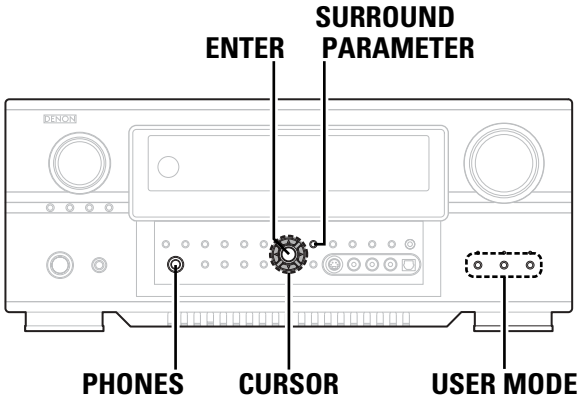
7 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

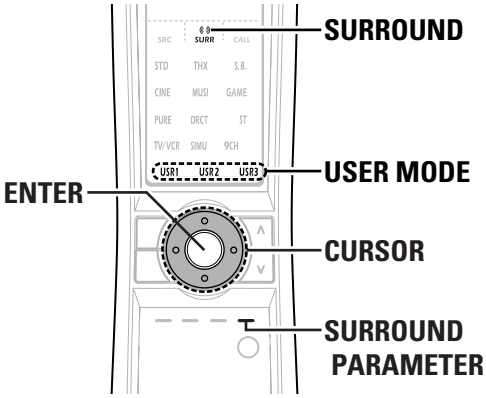
- When "Default" is selected and the **CURSOR** ◁ button is pressed, "MODE" and "TONE" are automatically reset to the default values and "CINEMA EQ." is set to "OFF".
- When playing PCM digital signals or analog signals in the DOLBY PRO LOGIC Ⅱ, DOLBY PRO LOGIC Ⅱx, DTS NEO:6 modes and the input signal switches to a digital signal encoded in Dolby Digital, the Dolby Surround mode switches automatically. When the input signal switches to a DTS signal, the mode automatically switches to DTS surround.

■ Surround parameters ⑤

DTS NEO:6 Mode:
- **Cinema:**
  This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.
  This mode is effective for playing sources recorded in conventional surround formats as well, because the in-phase component is assigned mainly to the center channel (C) and the reversed phase component to the surround (SL, SR and SB channels).
- **Music:**
  This mode is suited mainly for playing music. The front channel (FL and FR) signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals output from the center (C) and surround (SL, SR and SB) channels add a natural sense of expansion to the sound field.

CENTER IMAGE (0.0 to 1.0: default 0.3):
The center image parameter for adjusting the expansion of the center channel in the DTS NEO:6 MUSIC mode has been added.

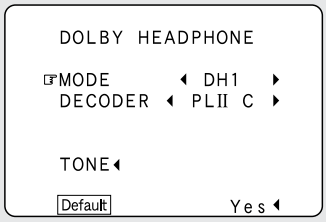




The Dolby Headphone

- The Dolby Headphone mode is set when headphones are connected to the **PHONES** jack while in the DOLBY/DTS SURROUND mode.

1 **Press the SURROUND PARAMETER button.**
- Display the "Surround Parameter" menu.



2 **Press the CURSOR △ or ▽ button to select the parameter.**

3 **Press the CURSOR ◁ or ▷ button to select the setting.**

4 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

■ Parameters

MODE:
- **DH1:**
  Reference room (small room with weak reverberations).
- **DH2:**
  Live room (room with a bit stronger reverberations than DH1).
- **DH3:**
  Large room (larger room than DH1, offers a sense of distance and sound diffusion effects).
- **BYPASS:**
  Stereo sound.

DECODER:

Select this when playing analog, PCM or other 2-channel sources.

The signals are converted into multichannel signals using the decoders shown below and played in the Dolby Headphone mode.
- **PLII C:**
  Dolby Pro Logic Ⅱ Cinema mode.
- **PLII M**
  Dolby Pro Logic Ⅱ Music mode.
- **NEO:6 C:**
  DTS NEO:6 Cinema mode.
- **NEO:6 M:**
  DTS NEO:6 Music mode.
- **OFF:**
  The signals are played in the Dolby Headphone mode as such (2 channels).

– Recording –

When RECOUT mode is set to "SOURCE", with this amplifier signals encoded in the Dolby Headphone mode can be output from the recording output terminals and recorded on another recorder (☞ page 85).

Memory and call-out functions (USER MODE function)

- The AVR-4806 is equipped with a function for storing the selected input source, the auto surround mode and input mode in the memory and selecting these settings when you want to use them.
- Three patterns of settings can be stored in the memory pressing the **USER MODE** buttons.

■ Storing the settings in the memory

1 **The following are stored in the memory:**
① **Currently set input source**
② **Currently set auto surround mode**
③ **Currently set input mode**

2 **Press and hold the USER MODE button at which you want to store the settings.**

※ In this case, press the button and hold it in until the indicator of the selected **USER MODE** button lights.

■ Calling the settings out

Press the USER MODE button at which the settings you want to call out are stored.
- The indicator for the selected **USER MODE** button lights.

※ The indicator turns off if you perform any operations that change the settings stored at the **USER MODE** buttons.

DENON original surround modes

• The AVR-4806 is equipped with a high performance DSP (Digital Signal Processor) which uses digital signal processing to synthetically recreate the sound field. One of nine preset surround modes can be selected according to the program source and the parameters can be adjusted according to the conditions in the listening room to achieve a more realistic, powerful sound.

Surround modes and their features

1	**WIDE SCREEN**	Select this to achieve an atmosphere like that of a movie theater with a large screen. In this mode, all signal sources are played in the 7.1-channel mode, including Dolby Surround and Dolby Digital 5.1-channel sources. Effects simulating the multi surround speakers of movie theaters are added to the surround channels.
2	**SUPER STADIUM**	Select this when watching baseball or soccer programs to achieve a sound as if you were actually at the stadium. This mode provides the longest reverberation signals.
3	**ROCK ARENA**	Use this mode to achieve the feeling of a live concert in an arena with reflected sounds coming from all directions.
4	**JAZZ CLUB**	This mode creates the sound field of a live house with a low ceiling and hard walls. This mode gives jazz a very vivid realism.
5	**CLASSIC CONCERT**	Select this for the sound of a concert hall rich in reverberations.
6	**MONO MOVIE (NOTE)**	Select this when watching monaural movies for a greater sense of expansion.
7	**VIDEO GAME**	Use this to enjoy video game sources.
8	**MATRIX**	Select this to emphasize the sense of expansion for music sources recorded in stereo. Signals consisting of the difference component of the input signals (the component that provides the sense of expansion) processed for delay are output from the surround channel.
9	**7CH STEREO**	The front left channel signals are output to the surround and surround back signal left channels, the front right channel signals are output to the surround and surround back signal right channels, and the in-phase component of the left and right channels is output to the center channel. Use this mode to enjoy stereo sound.

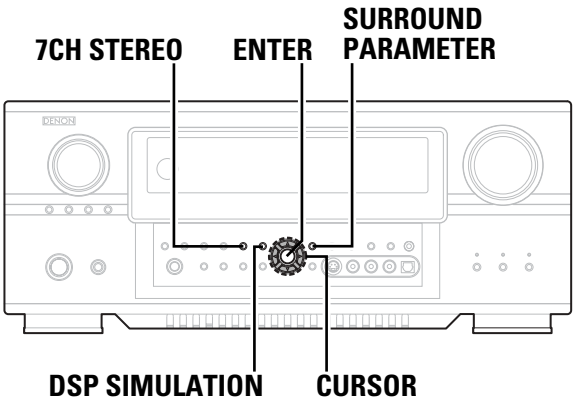
※ Depending on the program source being played, the effect may not be very noticeable.
In this case, try other surround modes, without worrying about their names, to create a sound field suited to your tastes.

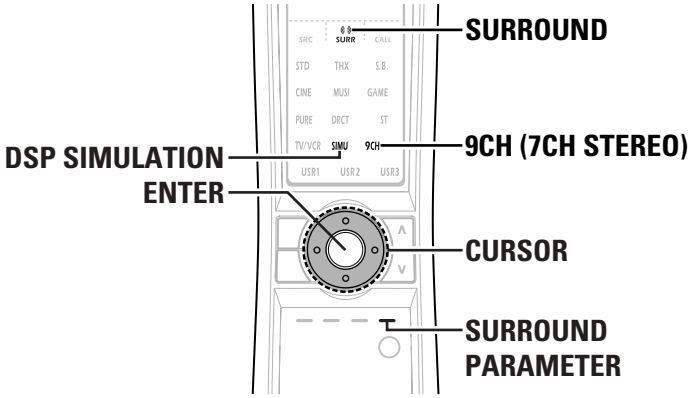
NOTE: When playing sources recorded in monaural, the sound will be one-sided if signals are only input to one channel (left or right), so input signals to both channels. If you have a source component with only one audio output (monophonic camcorder, etc.) obtain a "Y" adaptor cable to split the mono output to two outputs, and connect to the L and R inputs.

■ Personal Memory Plus

This set is equipped with a personal memorize function that automatically memorizes the surround modes and input modes selected for the input different sources. When the input source is switched, the modes set for that source last time it was used are automatically recalled.

※ The surround parameters, tone control settings and playback level balance for the different output channels are memorized for each surround mode.

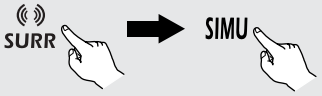




DSP surround simulation

1 **Select the surround mode for each input channel.**

Example: DSP surround simulation mode

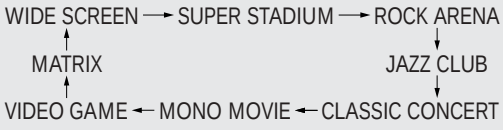


(Remote control unit) (Remote control unit)

Example: 7CH STEREO mode

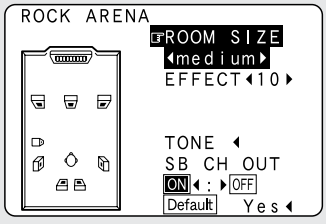
(Remote control unit) (Remote control unit)

※ The surround mode switches in the following order each time the **DSP SIMULATION** button is pressed:



2 **Press the SURROUND PARAMETER button.**

• Display the surround parameter menu.



※ The screen for the selected surround mode appears.

3 **Press the CURSOR △ or ▽ button to select the various surround parameters.**

4 **Press the CURSOR ◁ or ▷ button to adjust the parameters setting.**

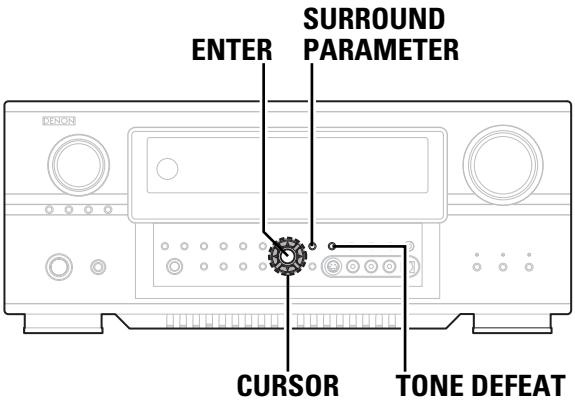
5 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

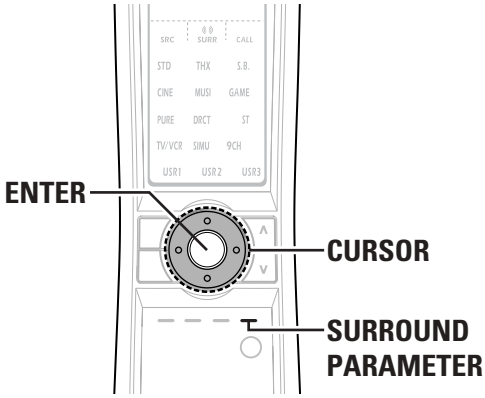
• The "7CH STEREO" display changes as shown below according to the surround back speaker setting.

SURROUND BACK SPEAKER	DISPLAY
ON	7CH STEREO
OFF	5CH STEREO

• When "Default" is selected and the **CURSOR** ◁ button is pressed, "CINEMA EQ." and "D.COMP." are automatically turned off, "ROOM SIZE" is set to "medium", "EFFECT LEVEL" to "10", "DELAY TIME" to "30 ms" and "LFE" to "0 dB".

• The "ROOM SIZE" expresses the expansion effect for the different surround modes in terms of the size of the sound field, not the actual size of the listening room.





■ Surround parameters ⑥

EFFECT:

This parameter turns the effect signals with multi surround mode speaker effects on and off in the WIDE SCREEN mode. When this parameter is turned off, the SBL and SBR channel signals are equivalent to the SL and SR channels, respectively.

LEVEL:

This parameter sets the strength of the effect signals in the WIDE SCREEN mode. It can be set in 15 steps, from "1" to "15". Set this to a low level if the positioning or phase of the surround signals sounds unnatural.

SB CH OUT:

- **ON:**
  Playback is conducted using the surround back speaker.
- **OFF:**
  Playback is conducted without using the surround back speaker.

NOTE:

This operation can be performed directly pressing the **SURROUND BACK** button on the main unit's panel.

ROOM SIZE:

This sets the size of the sound field.

There are five settings: "small", "med.s" (medium-small), "medium", "med.l" (medium-large) and "large". "small" recreates a small sound field, "large" a large sound field.

EFFECT LEVEL:

This sets the strength of the surround effect.

The level can be set in 15 steps from 1 to 15. Lower the level if the sound seems distorted.

DELAY TIME:

In the matrix mode only, the delay time can be set within the range of 0 to 300 ms.

SW ATT:

This is the parameter for reducing the level of the subwoofer channel when playing in the EXT. IN input mode. Depending on the player you are using, the dubwoofer channel's playback level may seem too high. If so, set "SW ATT" to "ON".

For DENON players, use with the default settings ("OFF").

Subwoofer ON/OFF:

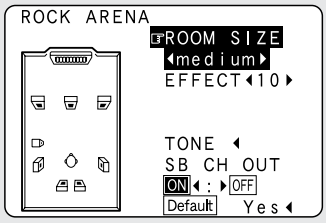
The subwoofer output can be controlled directly.

Tone control setting

- Use the tone control setting to adjust the bass and treble as desired.
- The tone control function will not work in the PURE DIRECT, DIRECT or Home THX Cinema mode.

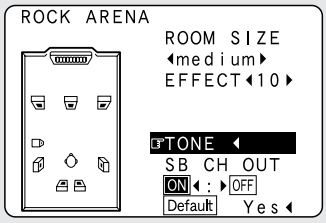
■ Adjusting the tone

1 **Press the SURROUND PARAMETER button.**
- Display the surround parameter menu.

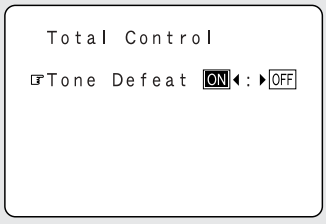


※ The screen selected surround mode appears.

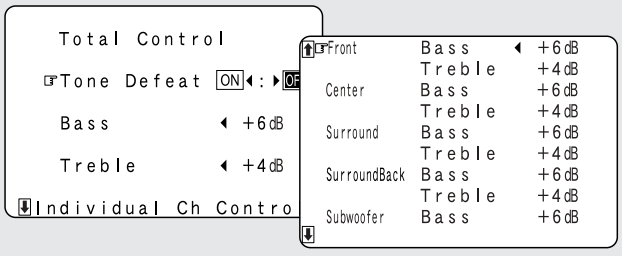
2 **Press the CURSOR △ or ▽ button to select the "TONE".**



3 **Press the CURSOR ◁ button.**
- Switch to the "Tone Control" screen.



4 **Press the CURSOR ▷ button to select the "Tone Defeat OFF".**



5 **Press the CURSOR △ or ▽ button to select the "Bass" or "Treble".**

6 **Press the CURSOR ◁ or ▷ button to set the level.**

※ To increase the bass or treble:
The bass or treble sound can be increased to up to +6 dB in steps of 1 dB.

※ To decrease the bass or treble:
The bass or treble sound can be decreased up to –6 dB in steps of 1 dB.

7 **Press the ENTER button.**
- The surround parameter menu screen re-appears.

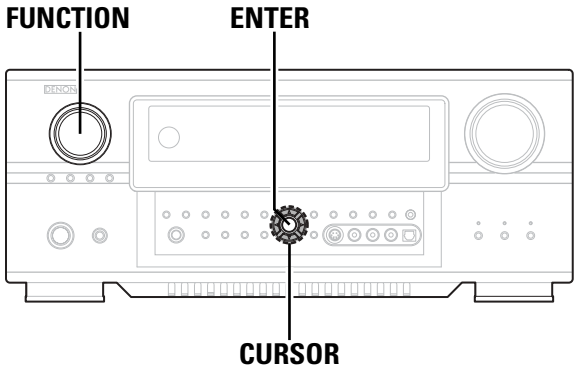
8 **Press the ENTER or SURROUND PARAMETER button to complete the setting.**

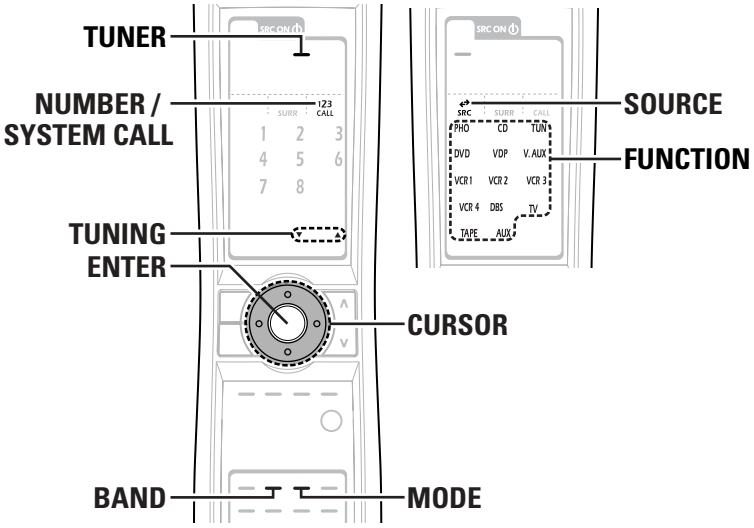
■ Tone defeat mode

- If you do not want the bass and treble to be adjusted, turn on the tone defeat mode.

Press the TONE DEFEAT button to turn on the "Tone Defeat" mode.

※ The signals do not pass through the bass and treble adjustment circuits, providing higher quality sound.

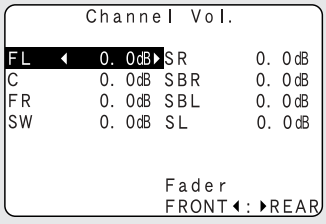




Channel Level

• You can adjust the channel level either according to the playback sources or to suit your tastes, as described below.

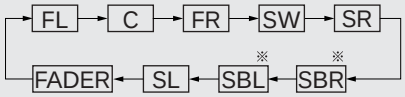
1 **Press the ENTER button.**
• Display the "Channel Vol." screen.



※ Channels which is not used are not displayed.

2 **Press the CURSOR △, ▽ or ENTER button to select the speaker.**

※ The channel switches as shown below each time the **ENTER** button is pressed.



3 **Press the CURSOR ◁ or ▷ button to adjust the level.**

※ The adjustment range for the different channels is +12 dB to –12 dB in step of 0.5 dB.
※ The sound from the subwoofer can be completely cut by lowering the SW (subwoofer) setting one additional from –12 dB (setting it to "OFF").

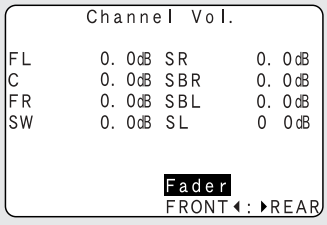
• When the surround back speaker setting is set to "1spkr" for "Speaker Configuration" (☞ page 113, 114), this is set to "SB".

Fader function

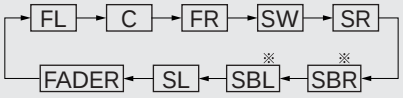
• This function makes it possible to lower the volume of the front channels (FL, C and FR) or the rear channels (SL, SR, SBL and SBR) together. Use it for example to adjust the balance of the sound from each position when multi-channel music sources are played.

1 **Press the ENTER button.**
• Display the "Channel Vol." screen.

2 **Press the CURSOR △, ▽ or ENTER button then select "Fader".**

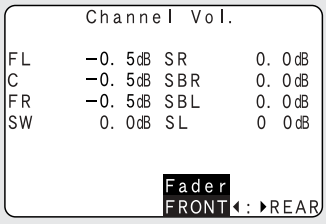


※ The channel switches in the order shown below each time the **ENTER** button is pressed.



3 **Press the CURSOR ◁ button to reduce the volume of the front channels, the CURSOR ▷ button to reduce the volume of the rear channels.**

Example: When "FRONT" is selected



※ The fader function does not affect the subwoofer channel.

- The channel whose channel level is adjusted lowest can be faded to –12 dB using the fader function.
- If the channel levels are adjusted separately after adjusting the fader, the fader adjustment values are cleared, so adjust the fader again.

Listening to the Radio

- Check that the remote control unit is set to AMP or TUNER.

Auto tuning

1 **Set the input source to "TUNER".**

(Main unit) (Remote control unit) (Remote control unit)

2 **Press the TUNER button to select the TUNER mode.**

(Remote control unit)

3 **Watching the display, press the BAND button to select the desired band (AM or FM).**

4 **Press the MODE button to set the auto tuning mode.**

- "Auto" appears on the display.

5 **Press the TUNING button.**

- Automatic searching begins, then stops when a station is tuned in.

- If tuning does not stop at the desired station, use to the "Manual tuning" operation.

Manual tuning

1 **Set the input source to "TUNER".**

(Main unit) (Remote control unit) (Remote control unit)

2 **Press the TUNER button to select the TUNER mode.**

(Remote control unit)

3 **Watching the display, press the BAND button to select the desired band (AM or FM).**

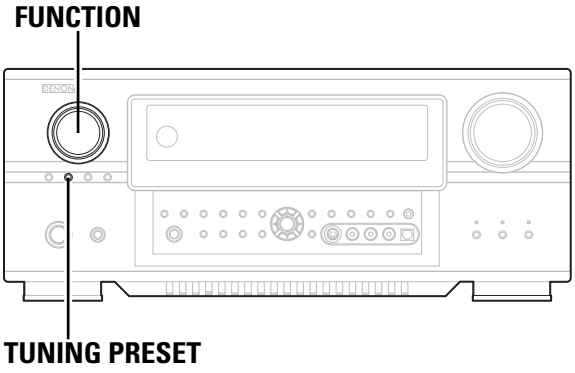
4 **Press the MODE button to set the manual tuning mode.**

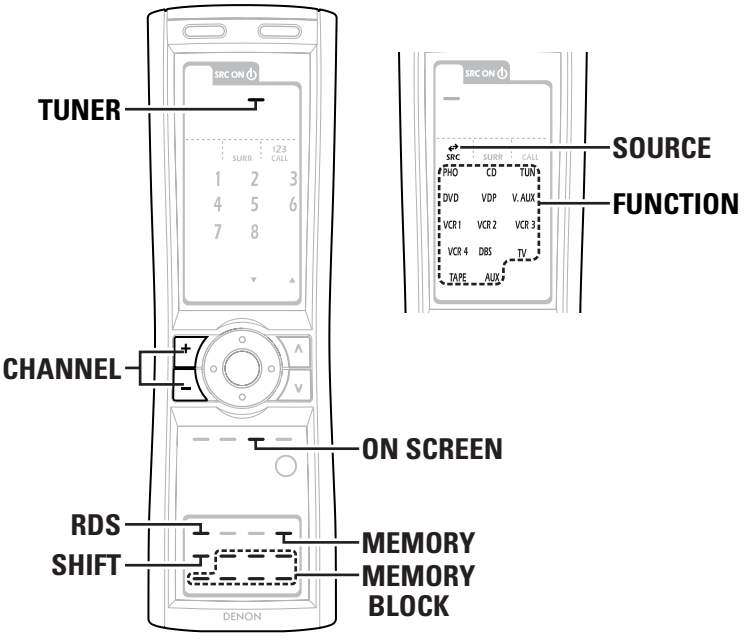
※ Check that the display's "AUTO" indicator turns off.

5 **Press the TUNING button to tune in the desired station.**

※ The frequency changes continuously when the button is held in.

- When in the auto tuning mode on the FM band, the "STEREO" indicator lights on the display when a stereo broadcast is tuned in. At open frequencies, the noise is muted and the "TUNED" and "STEREO" indicators turn off.
- When the manual tuning mode is set, FM stereo broadcasts are received in monaural and the "STEREO" indicator turns off.





Preset memory

1 **Use the "Auto tuning" or "Manual tuning" operation to tune in the station to be preset in the memory.**

2 **Press the TUNER button to select the TUNER mode.**

(Remote control unit)

3 **Press the MEMORY button.**

4 **Press the MEMORY BLOCK (A to G) button.**

※ The memory block can also be selected by pressing the **SHIFT** button.

5 **Press the CHANNEL button to select the desired preset channel (1 to 8).**

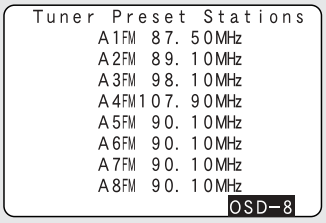
6 **Press the MEMORY button again.**
• Store the station in the preset memory.

• To preset other channels, repeat steps 2 to 5.
A total of 56 broadcast stations can be preset — 8 stations (channels 1 to 8) in each of blocks A to G.

Checking the preset stations

• The preset (broadcast) stations can be checked on the on screen display.

Press the ON SCREEN button repeatedly until the "Tuner Preset Stations" screen appears on the OSD.



Recalling preset stations

■ Recalling preset stations from the remote control unit

• Preset stations can be chosen directly preset channel and channel range button (☞ page 72).

1 **Select the MEMORY BLOCK (A to G).**

2 **Watching the display, press the CHANNEL button to select the desired preset channel.**

■ Recalling preset stations from the main unit's panel

1 Press the **TUNING PRESET** button.

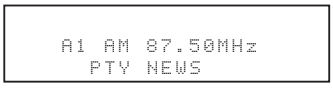
2 Turn the **FUNCTION** knob and select the desired preset channel.

RDS (Radio Data System)

- RDS (works only on the FM band) is a broadcasting service which allows station to send additional information along with the regular radio program signal.
- The following three types of RDS information can be received on this unit:

■ Program Type (PTY)

- PTY identifies the type of RDS program.
- The program types and their displays are as follows:



NEWS	News	**NOSTALGA**	Nostalgia
INFORM	Information	**JAZZ**	Jazz
SPORTS	Sports	**CLASSICL**	Classical
TALK	Talk	**R & B**	R & B
ROCK	Rock	**SOFT R&B**	Soft R&B
CLS ROCK	Classic rock	**LANGUAGE**	Language
ADLT HIT	Adult hits	**REL MUSC**	Religious music
SOFT RCK	Soft rock	**REL TALK**	Religious talk
TOP 40	Top 40	**PERSNLTY**	Personality
COUNTRY	Country	**PUBLIC**	Public
OLDIES	Oldies	**COLLEGE**	College
SOFT	Soft	**WEATHER**	Weather

■ Traffic Program (TP)

- TP identifies programs that carry traffic announcements.
- This allows you to easily find out the latest traffic conditions in your area before you leaving home.

■ Radio Text (RT)

- RT allows the RDS station to send text messages that appear on the display.

NOTE:
- The operations described below pressing the **RDS** button will not function in areas in which there are no RDS broadcasts.

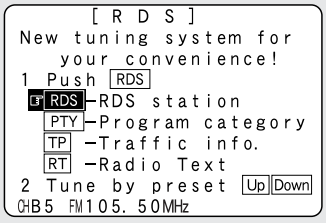
RDS search

- Use this function to automatically tune to FM stations that provide RDS service.

1 Set the input source to "TUNER".

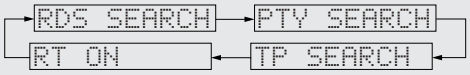
(Main unit) (Remote control unit) (Remote control unit)

2 Press the **RDS** button until "RDS SEARCH" appears on the display.

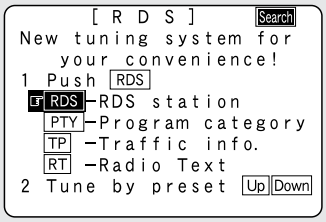


※ The main unit's display switches as follows each time the **RDS** button is pressed.

Display



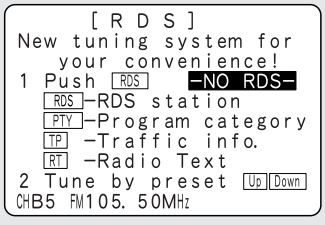
3 Press the **CHANNEL** button.
- Automatically begin the RDS search operation.

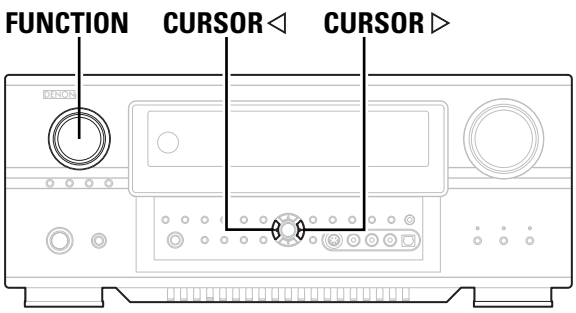

[R D S] Search
New tuning system for your convenience!
1 Push RDS
RDS -RDS station
PTY -Program category
TP -Traffic info.
RT -Radio Text
2 Tune by preset Up Down

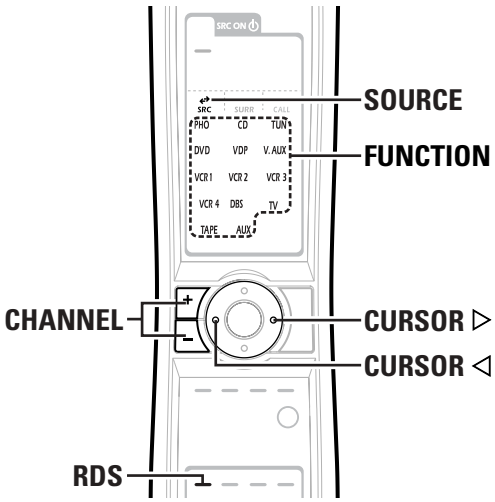
※ If no RDS stations is found with above operation, all the reception band are searched.
※ When a broadcast station is found, that station's name appears on the display.

4 To continue searching, repeat step 3.

※ If no other RDS station is found when all the frequencies are searched, "NO RDS" is displayed.


[R D S]
New tuning system for your convenience!
1 Push RDS -NO RDS-
RDS -RDS station
PTY -Program category
TP -Traffic info.
RT -Radio Text
2 Tune by preset Up Down
CHB5 FM105.50MHz





PTY search

- Use this function to find RDS stations broadcasting a designated program type (PTY).
- For a description of each program type, refer to "Program Type (PTY)".

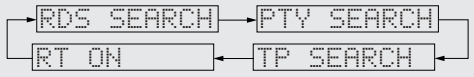
1 Set the input source to "TUNER".

(Main unit) (Remote control unit) (Remote control unit)

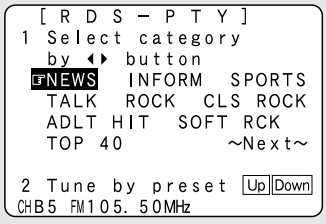
2 Press the RDS button until "PTY SEARCH" appears on the display.

※ The main unit's display switches as follows each time the **RDS** button is pressed.

Display



3 Watching the display, press the CURSOR ◁ or ▷ button to call out the desired program type.



4 Press the CHANNEL button.

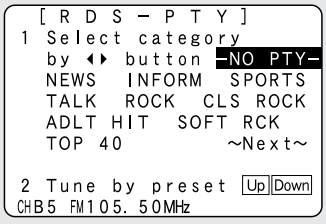
• Automatically begin the PTY search operation.

※ If there is no station broadcasting the designated program type with above operation, all the reception bands are searched.

※ The station name is displayed on the display after searching stops.

5 To continue searching, repeat step 4.

※ If no other station broadcasting the designated program type is found when all the frequencies are searched, "NO PROGRAMME" is displayed.



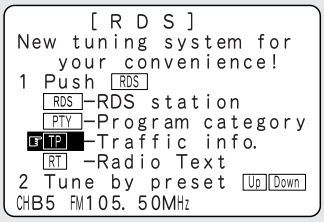
TP search

- Use this function to find RDS stations broadcasting traffic program (TP stations).

1 **Set the input source to “TUNER”.**

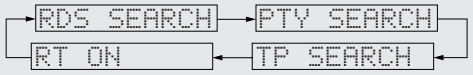
(Main unit) (Remote control unit) (Remote control unit)

2 **Press the RDS button until “TP SEARCH” appears on the display.**



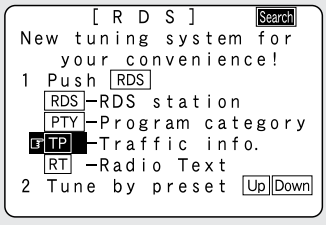
※ The main unit’s display switches as follows each time the **RDS** button is pressed.

Display



3 **Press the CHANNEL button.**

- Automatically begin the TP search operation.

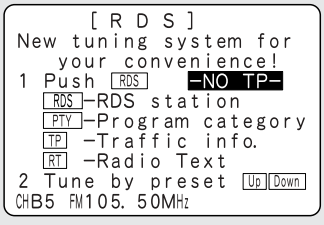


※ If no TP station is found with above operation, all the reception bands are searched.

※ The station name is displayed on the display after searching stops.

4 **To continue searching, repeat step 3.**

※ If no other TP station is found when all the frequencies are searched, “NO PROGRAMME” is displayed.



RT (Radio Text)

- “RT” appears on the display when radio text data is received.

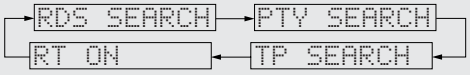
1 **Set the input source to “TUNER”.**

(Main unit) (Remote control unit) (Remote control unit)

2 **Press the RDS button until “RT ON” appears on the display.**

※ The main unit’s display switches as follows each time the **RDS** button is pressed.

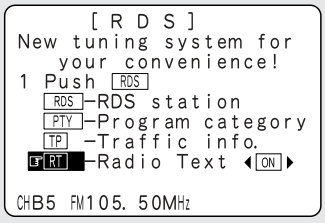
Display



※ While receiving an RDS broadcast station, the text data broadcast from the station is displayed.

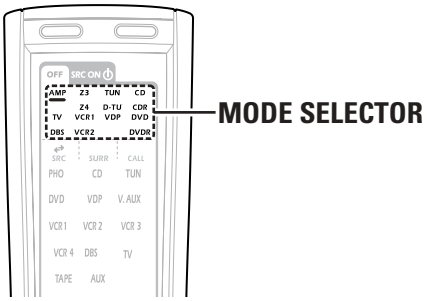
※ To turn the display off, press the **CURSOR** ◁ or ▷ button.

※ If no text data is being broadcast, “NO TEXT DATA” is displayed.



Advanced Operation

Remote control unit



Operating DENON audio components

1 **Press the MODE SELECTOR buttons to select the component you want to operate.**

※ The function switches as shown below each time one of the **MODE SELECTOR** buttons is pressed.

AMP/Z2	: AMP, ZONE2
Z3/Z4	: ZONE3, ZONE4
TUN/D-TU	: TUNER, D-TUNER*
CD/CDR	: CD, CDR
TV/DBS	: TV, DBS
VCR1/VCR2	: VCR1,VCR2
VDP	: VDP
DVD/DVDR	: DVD, DVDR

(* : This mode is for future use.)

Example:

Select "AMP" mode. Select "ZONE2" mode.

AMP

Z2

2 **Operate the audio component.**

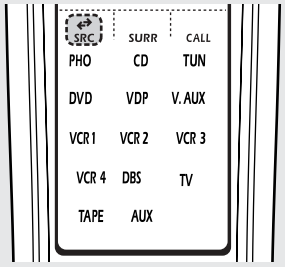
※ For details, refer to the component's operating instructions.

※ It may not be possible to operate some models.

3

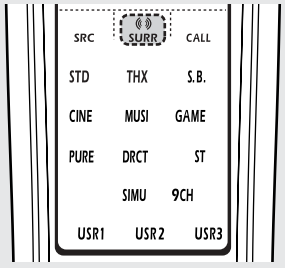
■ **SOURCE MENU**

• Operate the source.



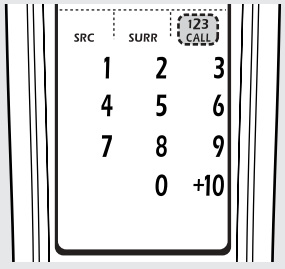
■ **SURROUND MENU**

• Operate the Surround mode.

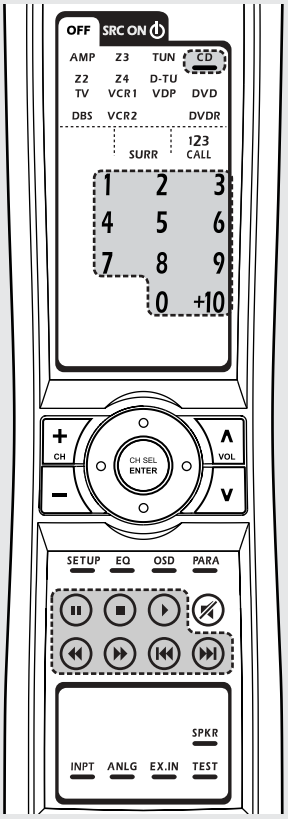


■ **NUMBER / SYSTEM CALL MENU**

• Operate the "Number" or "System call" mode.

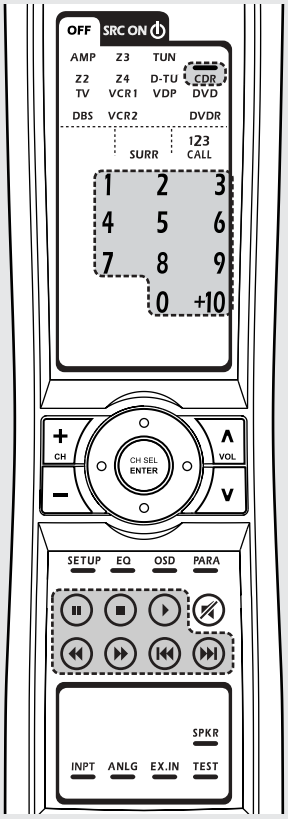


1. CD player (CD) system buttons



◄◄, ►►	: Manual search (forward and reverse)
■	: Stop
►	: Play
I◄◄, ►►I	: Auto search (to beginning of track)
II	: Pause
0 ~ 9, +10	: Number

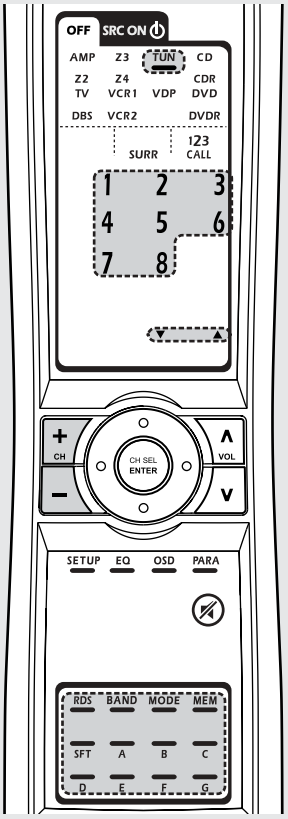
2. MD recorder (MD), CD recorder (CDR), Tape deck (TAPE) system buttons



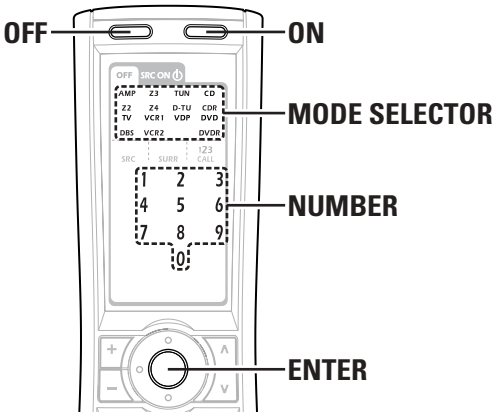
◄◄, ►►	: Manual search (forward and reverse)
■	: Stop
►	: Play
I◄◄, ►►I	: Auto search (to beginning of track)
II	: Pause
0 ~ 9, +10	: Number

※ The preset codes of an MD or tape player can be recorded in the CDR mode so that the MD or tape player can be operated (☞ page 72, 73).
It is only possible to set the preset memory for one player (CDR, MD or TAPE).

3. Tuner system buttons



▲, ▼	: Tuning up/down
BAND	: Switch between AM and FM bands
MODE	: Switch between AUTO and MANUAL
MEM	: Preset memory
SFT	: Switch preset channel range
CH +, –	: Preset channel up/down
A ~ G	: Preset channel range
1 ~ 8	: Preset channel
RDS	: RDS search



Preset memory

- The included remote control unit can be used to operate devices of different brands by registering the preset number corresponding to the brand of your device.
  For some models the remote control unit or the device may not operate properly. In this case, use the learning function (☞ page 76) to store your device's remote control signals in the included remote control unit.
  For instructions on resetting the preset memory (☞ page 78).

1 **Press the ON and OFF button at the same time.**

2 **Press the 1 button to select preset memory.**

■ **Setup List**
1 : Preset memory
2 : Learning setup
3 : System call
4 : Punch through
5 : Light setup
6 : Reset

3 **Press the MODE SELECTOR button for the component you want to preset, then press the ENTER button.**

※ Presetting is not possible for the AMP, ZONE2, ZONE3, ZONE4, TUNER and D-TUNER modes.

4 **Referring to the included List of Preset Codes, press the NUMBER to input the preset code (a 4-digit number) for the manufacturer of the component whose signals you want to store in the memory.**

- "OK" is displayed when the signals are registered and the mode is terminated.

※ "FAIL" is displayed when the signals are not registered, repeat steps 1 to 4.

5 **To store the codes of another component in the memory, repeat steps 1 to 5.**

NOTE:

- Depending on the model and year of manufacture, this function cannot be used for some models, even if the your device is listed on the included list of preset codes.
- Some manufacturers use more than one type of remote control code. Refer to the included list of preset codes to change the number and check it out.

■ The preset codes are as follows upon shipment from the factory and after resetting:

- TV, VCR1 .....HITACHI
- CD, CDR, VDP, DVD, DVDR .....DENON
- VCR2, DBS .....SONY

DVD preset codes	0000 (default)	0517
DENON Model No.	DVD-555 DVD-755 DVD-900 DVD-910 DVD-955 DVD-1000 DVD-1200 DVD-1500 DVD-1710 DVD-1910 DVD-2200 DVD-2800 DVD-2800Ⅱ DVD-2900 DVD-2910 DVD-3800 DVD-3910 DVD-5900 DVD-5910 DVD-9000 DVM-715 DVM-1800 DVM-1805 DVM-1815 DVM-2815 DVM-4800	DVD-800 DVD-1600 DVD-2000 DVD-2500 DVD-3000 DVD-3300

Operating a component stored in the preset memory

1 **Press the MODE SELECTOR button for the component you want to operate.**

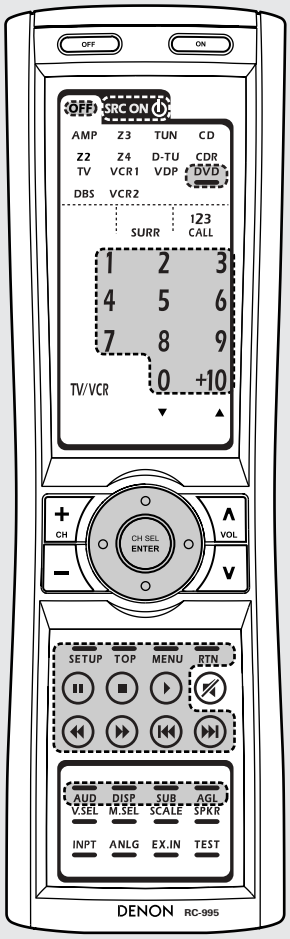
2 **Operate the component.**

※ For details, refer to the component's operating instructions.

※ Some models cannot be operated with this remote control unit.

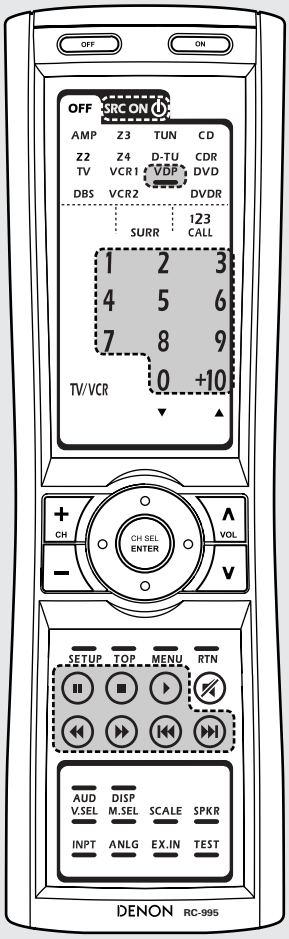
- For the DVD player remote control buttons, function names may differ according to manufacturer. Compare with the remote control operation of the various components.

1. DVD player (DVD), DVD recorder (DVD R) system buttons



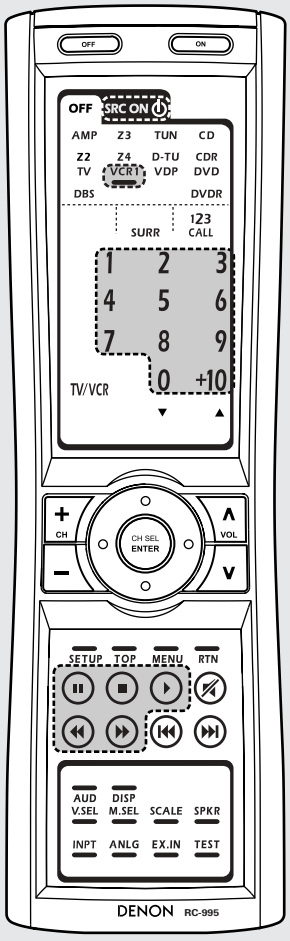
SRC ON	: Power on
OFF	: Power off (DENON DVD only)
◄◄, ►►	: Manual search (forward and reverse)
■	: Stop
►	: Play
I◄◄, ►►I	: Auto search (to beginning of track)
II	: Pause
SETUP	: Setup
TOP	: Top menu
MENU	: Menu
RTN	: Return
↑, ↓, ←, →	: Cursor up, down, left and right
ENTER	: Enter
AUD	: Switch the audio language
DISP	: Display
SUB	: Switch the subtitle
AGL	: Switch the angle
0 ~ 9, +10	: Number

2. Video disc player (VDP) system buttons



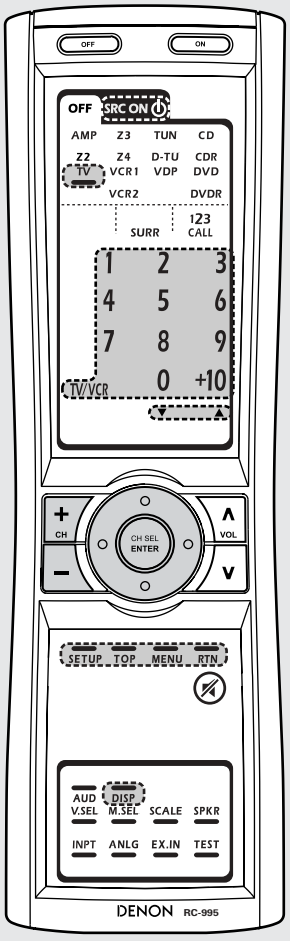
SRC ON	: Power on/Standby
◄◄, ►►	: Manual search (forward and reverse)
■	: Stop
►	: Play
I◄◄, ►►I	: Auto search (cue)
II	: Pause
0 ~ 9, +10	: Number

3. Video deck (VCR-1/VCR-2) system buttons



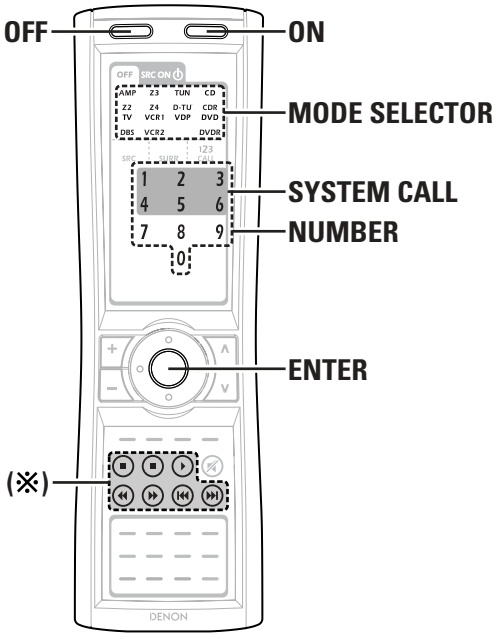
SRC ON	: Power on / Standby
◄◄, ►►	: Manual search (forward and reverse)
■	: Stop
►	: Play
II	: Pause
0 ~ 9, +10	: Number

4. Monitor TV (TV),digital broadcast satellite (DBS) tuner and cable (CABLE) system buttons



SRC ON	: Power on / Standby
SETUP	: Setup
TOP	: Top menu
MENU	: Menu
RTN	: Return
⬆, ⬇, ⬅, ➡	: Cursor up, down, left and right
ENTER	: Enter
DISP	: Switch display
CH +, –	: Switch channels +, –
0 ~ 9, +10	: Number
TV/VCR	: Switch between TV and video player
▲, ▼	: Volume up/down

※ The preset codes of cable box decoder can be recorded in the DBS mode so that the cable device can be operated (☞ page 72, 73).
It is only possible to set the preset memory for either the DBS or cable device.



Learning function

- If an AV component is not a DENON product, or if it cannot be operated via codes provided in the AVR-4806 remote control's internal preset memory, or if its codes cannot be successfully learned by the AVR-4806 remote control, then you should use the remote control that was supplied with that AV component to operate the component.

1 **Press the ON and OFF button at the same time.**

2 **Press the 2 button to select Learning setup.**

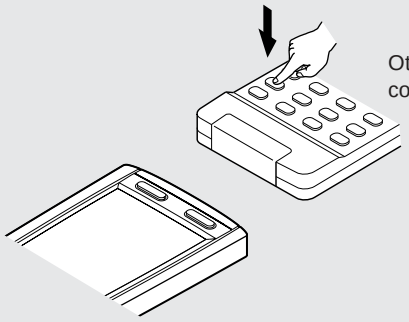
3 **Press the MODE SELECTOR button for the component you want to learned, then press the ENTER button.**
- Buttons that allow learning will light.

※ Learning is not possible for the AMP, ZONE2, ZONE3 and ZONE4 modes.

4 **Press the button that you wish to be learned.**
- The display will go off and the unit will enter the learning standby mode.

※ To cancel, press the **ON** and **OFF** button simultaneously.

5 **Point the remote control units directly at each other and press and hold in the button on the other remote control unit which you want to "learn".**
- "OK" appears on the remote control unit's display and learning is completed.



※ Other keys can be "learned" by repeating steps 5.
※ "FAIL" appears on the remote control unit's display, repeating steps 4 and 5.
※ The mode can be switched by pressing a **MODE SELECTOR** button.
The buttons that allow learning display reappears and the learning standby mode is set.

- To cancel the learning mode, press the **ON** and **OFF** button simultaneously again.

System call

• The accessorius remote control unit is equipped with "system call" function allowing a series of remote control signals to be transmitted by pressing a single button.
This function can be used for example to turn on the amplifier's power, select the input source, turn on the monitor TV's power, turn on the source component's power and set the source to the play mode, all at the touch of a single button.

■ System call buttons

• Up to 12 signals each can be stored at the **SYSTEM CALL 1 ~ 6** buttons.
• The System Call function can be used in the AMP, ZONE2, ZONE3 and ZONE4 modes.

■ Storing system call signals

1 **Press the ON and OFF button at the same time.**

2 **Press the 3 button to select system call setting.**

3 **Press the MODE SELECTOR button for the component you want to register at the SYSTEM CALL button, then press the ENTER button.**

4 **Press the button you want to register.**

※ The mode can be switched by pressing a **MODE SELECTOR** button.

5 **Repeat steps 4 to register the desired buttons.**

※ Up to 12 signals each can be stored at the SYSTEM CALL 1 ~ 6.

6 **Press the ENTER button after the button registration is completed.**
• There will be a changeover to the system call registration screen.

7 **Press buttons from SYSTEM CALL 1 to 6 to register the system call.**
• "OK" is displayed and the set returns to the normal operating mode.

• If you exceed the number of signals that can be registered, there will be a changeover to the system call registration screen.

NOTE:
• The remote control signals of the buttons pressed while registering the system call signals are emitted, so be careful not to operate the components accidentally (cover the remote sensors, for example).

■ Using the system call function

Press the button at which the system call signals have been stored.
• The stored signals are transmitted successively.

Punch Through

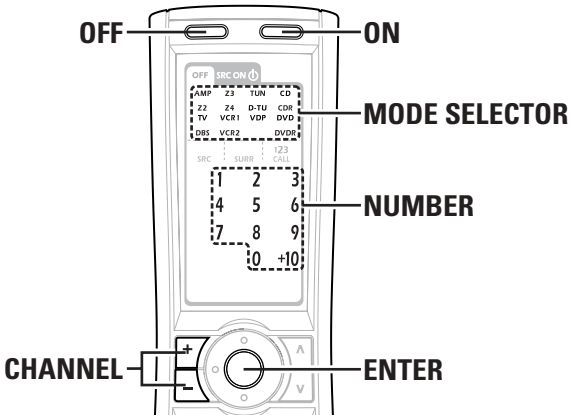
• Buttons used in the CD, CDR, DVD, DVDR, VDP, VCR1 and VCR2 modes can be assigned to the buttons which are not normally used in the AMP, ZONE2, ZONE3, ZONE4, TV and DBS modes.
For example, when the CD mode is set to the punch through mode in the AMP mode, the CD mode's PLAY, STOP, MANUAL SEARCH, AUTO SEARCH and PAUSE buttons' signals are sent in the AMP mode. — (※)

1 **Press the ON and OFF button at the same time.**

2 **Press the 4 button to select punch through setting.**

3 **Press the MODE SELECTOR button for the component you want to make the punch through setting, then press the ENTER button.**

4 **Press the MODE SELECTOR button for the component you want to punch through, then press the ENTER button.**
• The punch through is set and the set returns to the normal operating mode.



Setting the back light's lighting time

1 Press the **ON** and **OFF** button at the same time.

2 Press the **5** button to select Light setup.

3 Press the button you want to adjust the lighting time (5 sec ~ 20 sec).

■ **Lighting time**

1 : 5 sec
2 : 10 sec (factory default)
3 : 15 sec
4 : 20 sec

Setting the brightness

• The brightness of the display can be adjusted in 3 levels.

■ **For 1 brightness step increase**

Hold the **ENTER** button and press the **CHANNEL +** button.

■ **For 1 brightness step decrease**

Hold the **ENTER** button and press the **CHANNEL –** button.

Resetting

■ **Resetting the preset memory**

1 Press the **ON** and **OFF** button at the same time.

2 Press the **6** button to select resetting.

3 Press the **1** button to resetting the preset memory.

■ **Resetting List**

1 : Resetting the preset memory
2 : Resetting the "Learned" buttons
3 : Resetting the system call
4 : Resetting the punch through setting
+10 : All reset function (factory default)

• The **MODE SELECTOR** buttons that were set in preset memory will all light.

4 Press the **MODE SELECTOR** button you want to resetting, then press the **ENTER** button.

• The set returns to the normal operating mode.

■ **Resetting the learned buttons**

1 Press the **ON** and **OFF** button at the same time.

2 Press the **6** button to select resetting.

3 Press the **2** button to resetting the learned buttons.

• The **MODE SELECTOR** buttons will all light.

4 Press the **MODE SELECTOR** button you want to resetting, then press the **ENTER** button.

• The set returns to the normal operating mode.

■ Resetting the system call buttons

1 **Press the ON and OFF button at the same time.**

2 **Press the 6 button to select resetting.**

3 **Press the 3 button to resetting the system call buttons.**
- All buttons of system call will light.

4 **Press the MODE SELECTOR button you want to resetting, then press the ENTER button.**
- The set returns to the normal operating mode.

■ Resetting the punch through setting

1 **Press the ON and OFF button at the same time.**

2 **Press the 6 button to select resetting.**

3 **Press the 4 button to resetting the punch through setting.**
- All punched through mode buttons will light.

4 **Press the MODE SELECTOR button you want to resetting, then press the ENTER button.**
- The set returns to the normal operating mode.

■ All reset function

1 **Press the ON and OFF button at the same time.**

2 **Press the 6 button to select resetting.**

3 **Press the +10 button.**
- Clear the entire system memory, which will restore the remote control unit to the factory default settings. This operation will take approximately 20 seconds.

※ Only use this if you wish to clear all customized settings and memories and restore the unit to its out-of-the-box factory default settings.

Multi zone music entertainment system

- When the outputs of the "ZONE2 (ZONE3)" OUT terminals are wired and connected to power amplifiers installed in other rooms, different sources can be played in rooms other than the MAIN ZONE in which this unit and the playback devices are installed. (Refer to ZONE2 (ZONE3) on the diagram below.)
- Settings can be made at "Power Amp Assign" in the "System Setup Menu" so that the same source as the ZONE2 (ZONE3) pre-out terminals can be played from the speakers connected to the ZONE2 (ZONE3) speaker terminals (☞ page 106, 107).
- When a sold separately room-to-room remote control unit (DENON RC-616, 617 or 618) is wired and connected between the MAIN ZONE and ZONE2 (ZONE3), the remote-controllable devices in the MAIN ZONE can be controlled from ZONE2 (ZONE3) using the remote control unit.

※ To control playback devices other than the ones above, either use that device's remote control unit or preset a separately sold programmable remote control unit.

- For instructions on installation and operation of separately sold devices, refer to the devices' operating instructions.

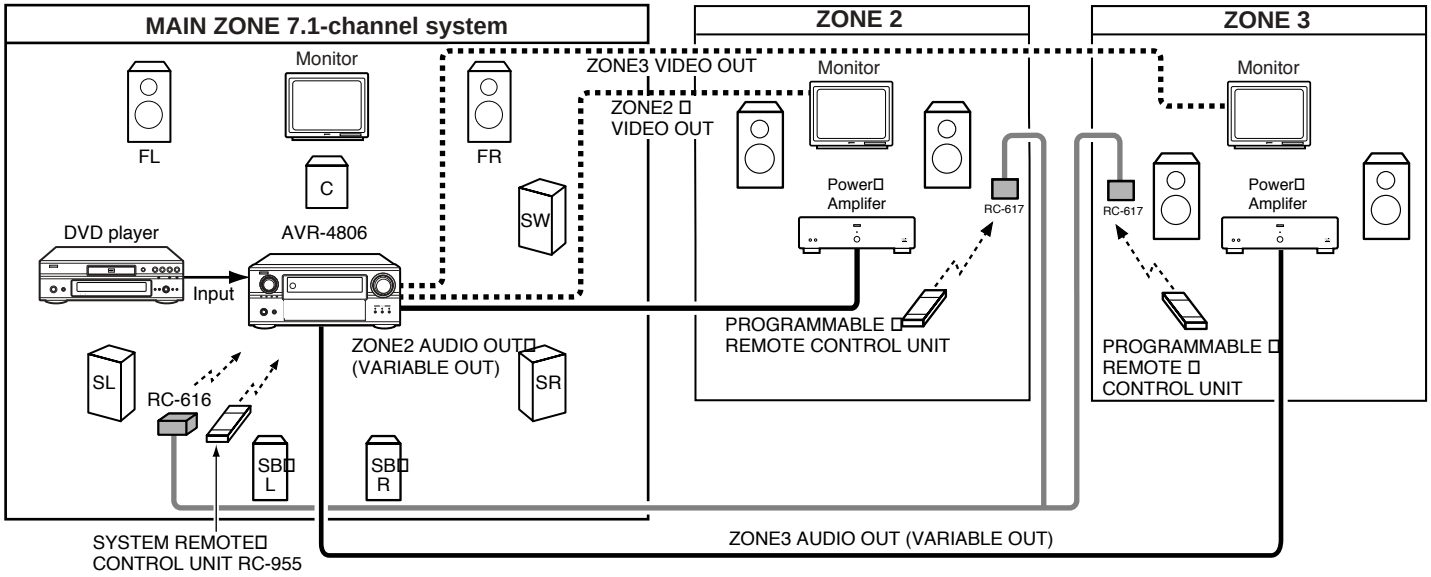
Multi-zone playback using the ZONE2 and ZONE3 PREOUT terminals

■ When using the power amplifier as the MAIN ZONE output

- The AVR-4806 is equipped with pre-out terminals for which the volume is adjustable and video output terminals (composite and S-Video) as the ZONE2/ZONE3 output terminals.
- When using just one speaker in ZONE2 (ZONE3), select "Mono" at "Channel Setup" in the "System Setup Menu" (☞ page 105). The sound in ZONE2 (ZONE3) is monaural. In this case, the ZONE2 (ZONE3) monaural output is output from both the left and right channels of the ZONE2 (ZONE3) PREOUT connectors, so connect to either one.

[System configuration and connections example]

Using external amplifier.



: MULTI SOURCE VIDEO signal cable

: MULTI SOURCE AUDIO signal cable

: ROOM-TO-ROOM REMOTE CONTROL SYSTEM (separately sold) control line

※ Refer to "Connections" (☞ page 39).

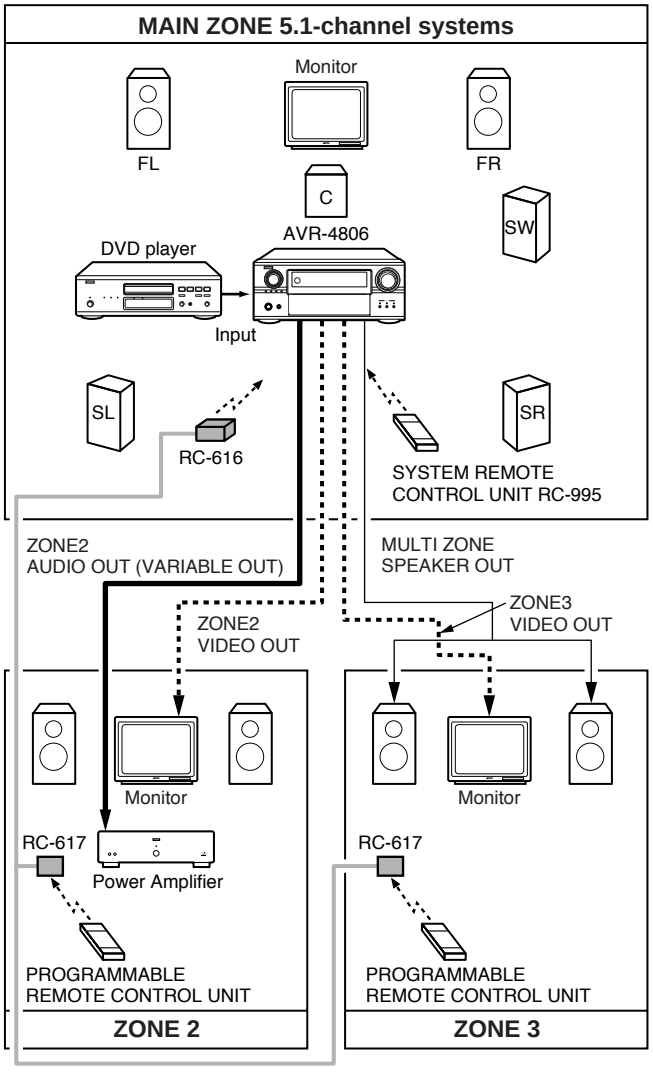
Multi-zone playback using the SPEAKER terminals

■ When using the power amplifier as the ZONE2/ZONE3 output

- When the power amplifier is assigned to the ZONE2 or ZONE3 output channel at "Power Amp Assign" in the "System Setup Menu", the MAIN ZONE speaker terminals can be used as the ZONE2 or ZONE3 speaker out terminals (☞ page 106, 107).

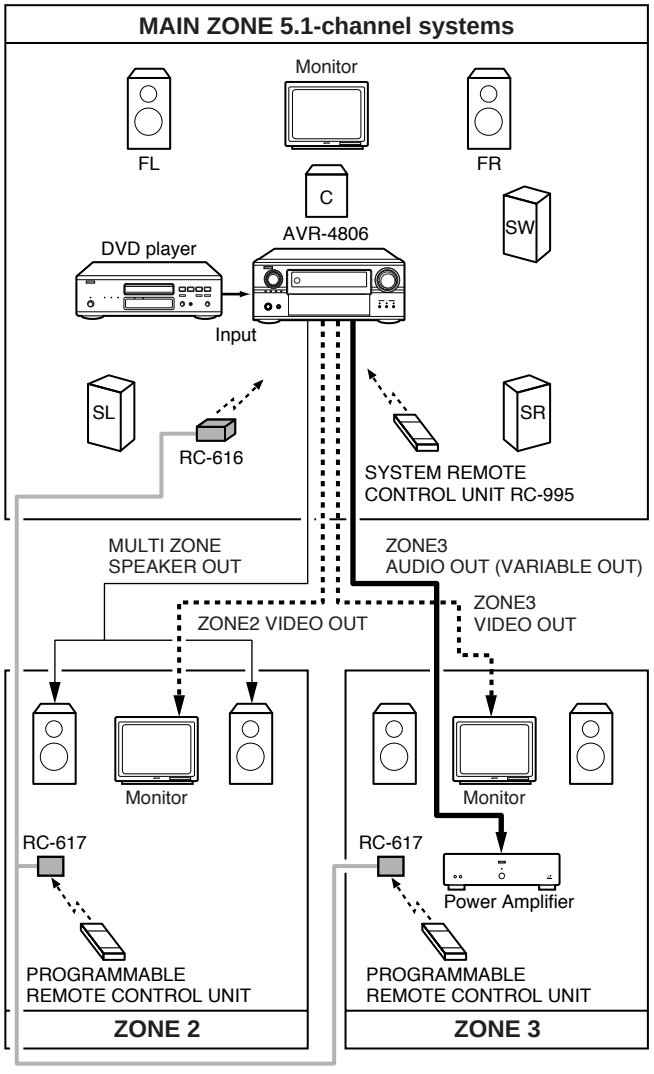
[System configuration and connections example]

Using external amplifier as the ZONE2 and using this AVR-4806 internal amplifier as the ZONE3.



[System configuration and connections example]

Using this AVR-4806 internal amplifier as the ZONE2 and using external amplifier as the ZONE3.



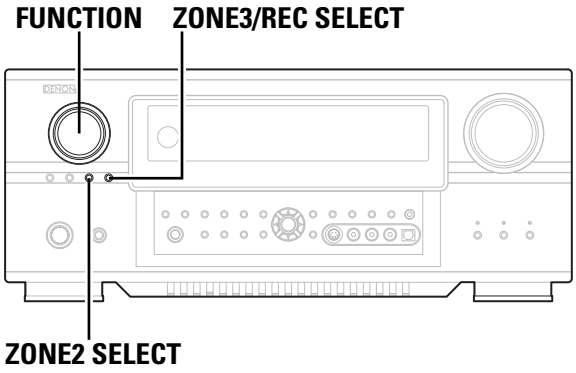
: MULTI SOURCE VIDEO signal cable

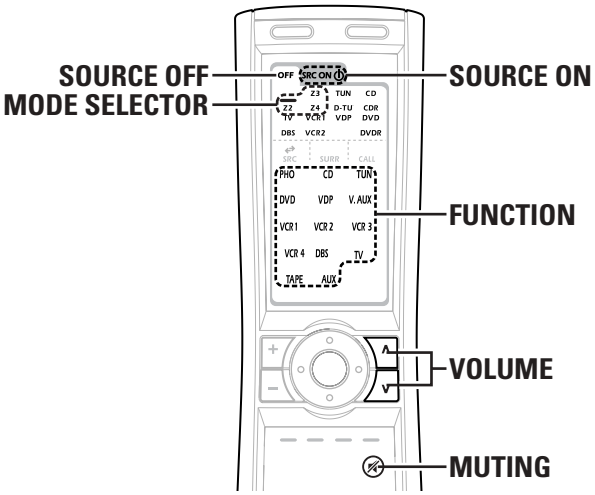
: MULTI SOURCE AUDIO signal cable

: ROOM-TO-ROOM REMOTE CONTROL SYSTEM (separately sold) control line

: SPEAKER cable

※ Refer to "Connections" (☞ page 40).





Outputting a program source to an amplifier, etc., in a ZONE2 room (ZONE2 SELECT mode)

1 Press the **ZONE2 SELECT** button to display the "ZONE2 SOURCE" on the display.

2 Turn the **FUNCTION** knob to select the source you want to output appears on the display.

3 Start playing the source to be output.

※ For operating instructions, refer to the manuals of the respective components.

Outputting a program source to an amplifier, etc., in a ZONE3 room (ZONE3 SELECT mode)

1 Press the **ZONE3/REC SELECT** button to display the "ZONE3 SOURCE" on the display.
- The MULTI indicator light.

※ The display switches as follows each time the button is pressed.

ZONE3 ⟷ RECOUT

2 Turn the **FUNCTION** knob to select the source you want to output appears on the display.

3 Start playing the source to be output.

※ For operating instructions, refer to the manuals of the respective components.

- The signals of the source selected in the ZONE3 mode are also output from the VCR-1, VCR-2, VCR-3 and CDR/TAPE recording output terminals.
- Digital signals are not output from the ZONE2 and ZONE3 audio output terminals.
- About the MULTI ZONE connections (☞ page 80, 81).
- Digital outputs of the OPTICAL2, 3 and 4 OUT normally switch in association with the ZONE3/REC SELECT mode, but if "ZONE2 SELECT" is selected at "Digital Out Assign", the source switches in association with the "ZONE2 SELECT" mode for the OPTICAL2 OUT digital output connector (☞ page 111).

Remote control unit operations during multi-source playback

1 **Select the zone which you want to operate pressing the MODE SELECTOR buttons.**

Example: ZONE2

(Remote control unit)

2 **Press the SOURCE ON button to turn on the zone power.**

※ Press the **SOURCE OFF** button to turn off the zone power.

3 **Select the input source you wish to output.**

4 **The volume of the outputs of the different zones can be adjusted with the VOLUME button on the remote control unit.**

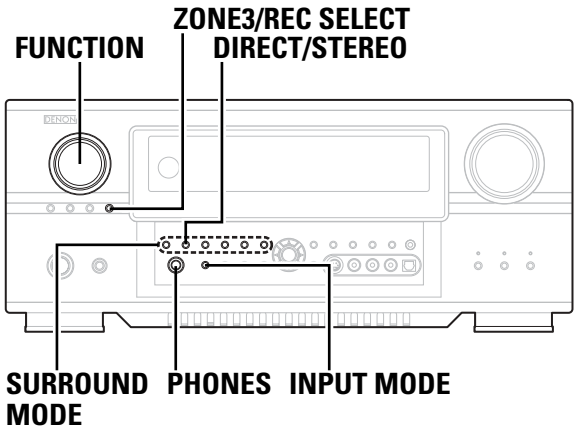
※ The output level can be controlled only if the zone volume level is set "variable" at "Volume Control" in the "System Setup Menu" (☞ page 108).

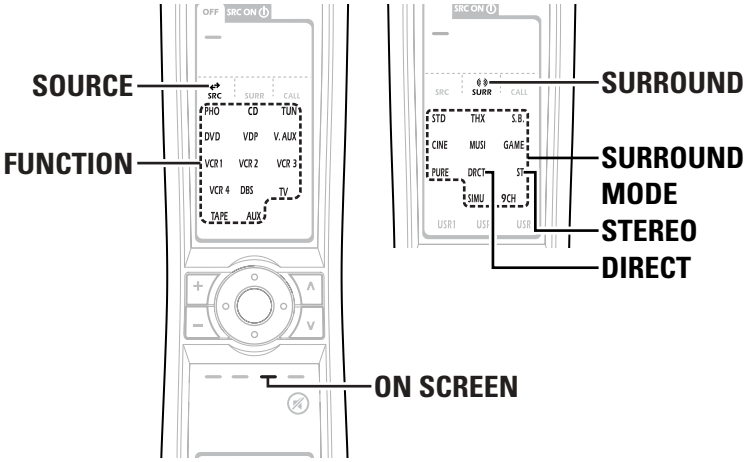
※ DEFAULT VOLUME SETTING
ZONE2 : –40 dB
ZONE3 : –40 dB

※ The zone volume can be adjusted within the range of –80 to 18 dB, in steps of 1 dB.

- Press the **MUTING** button to mute the audio temporarily. The muting level is same as set with "Volume Control".
- Cancelling muting mode:
  Press the **MUTING** button again, or press the **VOLUME** button on the remote control unit.

Other function





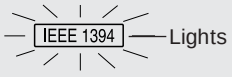
Playing Super Audio CDs with an IEEE1394 cable

1 **Select the input source to which IEEE1394 was assigned at the "IEEE1394 Assign" (☞ page 92) in the system setup.**

Example: CD

(Main unit) (Remote control unit) (Remote control unit)

• The IEEE1394 indicator lights.



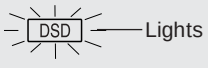
2 **Select the surround mode.**

Example: DIRECT

(Main unit) (Remote control unit) (Remote control unit)

3 **Start playback on the selected component.**

• The DSD indicator lights.

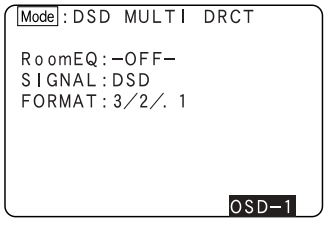


※ For operating instructions, refer to the component's manual.

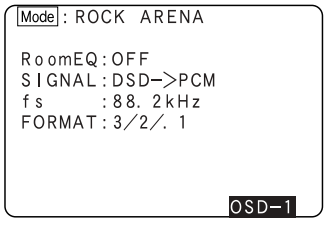
※ "DSD DIRECT" is shown on the display when playing DSD 2-channel signals in the DIRECT mode. "DSD MULTI DIRECT" is displayed when playing DSD multi-channel signals in the DIRECT mode (SB CH OUT "OFF").

When playing DSD signals in the DIRECT or PURE DIRECT mode, the DSD signals are converted into analog signals. When playing in other surround modes, the DSD signals are first converted into PCM signals with a sampling frequency of 88.2 kHz. However, when playing DSD 2-channel signals in the STEREO mode, they are converted into PCM signals with a sampling frequency of 176.4 kHz. The input signal and playing status can be checked by pressing the **ON SCREEN** button on the remote control unit.

Example: When DSD multi-channel signals are played in the DIRECT mode



Example: When DSD multi-channel signals are played in the ROCK ARENA mode



Multi-source recording / playback

■ Playing one source while recording another (REC OUT mode)

1 **Press the ZONE3/REC SELECT button until "RECOUT SOURCE" appears on the display.**
- The "REC" indicator lights.

2 **Turn the FUNCTION knob to select the source you wish to record.**

3 **Set the recording mode.**

※ For operating instructions, refer to the manual of the component on which you want to record.

- To cancel, turn the **FUNCTION** knob and select "SOURCE".
- Recording sources other than digital inputs selected in the REC OUT mode are also output to the ZONE3 audio/video output terminals.
- When the REC OUT mode is selected, the **ZONE3** button on the remote control unit cannot be operated.
- When "ZONE2 SELECT" is selected at "Digital Out Assign", the source switches in association with the "ZONE2 SELECT" mode for the OPTICAL2 OUT connector (☞ page 111).

■ Recording Dolby Digital and DTS multichannel sources

- With this set it is possible to record Dolby Digital and DTS multichannel signals converted into 2-channel analog signals.
- The recording signals are output to the TAPE and VCR output terminals.
- Down-mixed analog signals converted into digital signals are output from the OPTICAL 2, 3 and 4 digital output terminals at this time.

1 **Press the ZONE3/REC SELECT button until "RECOUT SOURCE" appears on the display.**

2 **Press the INPUT MODE button to set the input mode according to the source to be played.**

3 **Press the DIRECT/STEREO button to set the surround mode.**
- The multichannel digital signals are down-mixed and output to the TAPE and VCR output terminals.

4 **Set the recording mode.**

■ Dolby Headphone recording

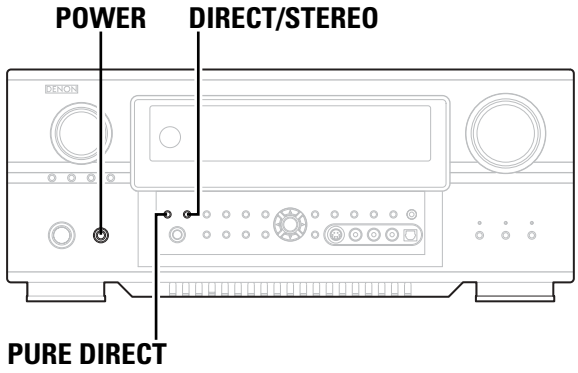
- When REC OUT mode is set to "SOURCE", with the AVR-4806 it is possible to output signals encoded in the Dolby Headphone mode from the recording output terminal and record them on a separate recorder.

1 **The Dolby Headphone play mode is set when headphones are connected to the PHONES jack during playback in the DOLBY/DTS surround mode.**
- When this is done, signals encoded in the Dolby Headphone mode are automatically output from the recording output terminals (analog and digital) and can be recorded.

2 **Select the parameters and set the desired mode.**
- Start recording.

※ Refer to the "Dolby Headphone" (☞ page 58).

NOTE:
- Do not disconnect the headphones during recording.



Last Function Memory

- This unit is equipped with a last function memory which stores the input and output setting conditions as they were immediately before the power is switched off.
  This function eliminates the need to perform complicated resetting when the power is switched on.
- The unit is also equipped with a back-up memory. This function provides approximately one week of memory storage from when the main unit's power switch is off and with the power supply cord disconnected.

Initialization of the Microprocesssor

- In very rare instances, the AVR-4806 internal microprocessor might lock up, or otherwise cause mis-operation. This might be caused due to an AC line surge or line spike noise, or by static electric discharge on or nearby the unit, or to connected components. If the condition cannot be corrected by powering off the unit, including disconnection of the power supply cord for a period of ten minutes and subsequent re-connection, then the unit may have to be re-initialized. Doing so will restore the microprocessor to its original out-of-the-box state, with all custom memories and settings erased, and the original factory default settings restored. Only use this procedure if you are sure that the microprocessor requires re-initialization.

1 **Switch off the unit using the main unit's POWER switch.**

2 **Hold the following PURE DIRECT button and DIRECT/STEREO button, and turn the main unit's POWER switch on.**

3 **Check that the entire display is flashing with an interval of about 1 second, and release your fingers from the 2 buttons.**
- The microprocessor will be initialized.

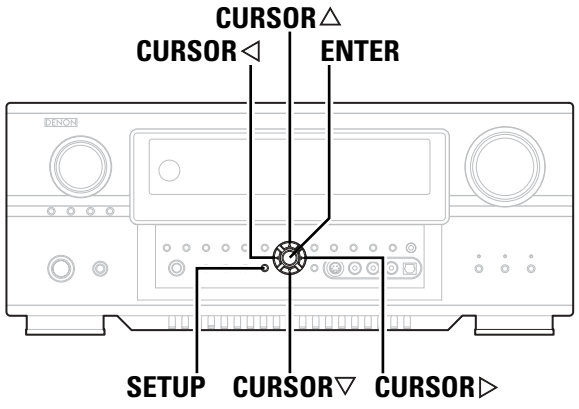
- If step 3 does not work, start over from step 1.
- If the microprocessor has been reset, all the settings are reset to the default values (the values set upon shipment from the factory).

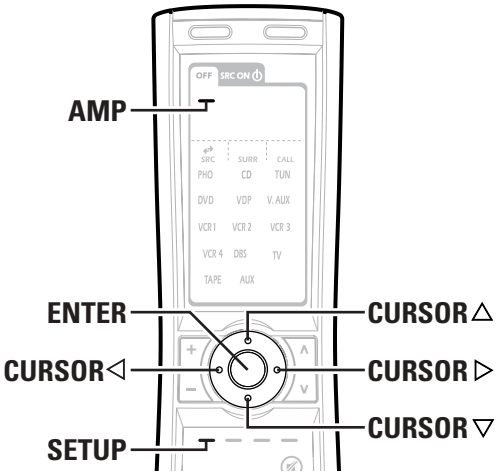
Advanced Setup – Part 1

- You can customize a variety of system setup so that it may be fitting for your listening environment. For the contents of a system memu and the initial setting of this unit (☞ page 126 ~ 128).

Navigating through the System Setup Menu

- You can change setting using the buttons on the front panel or remote control unit.





1 Press the **AMP** button on the remote control unit.

2 Press the **SETUP** button to display "System Setup Menu".
Press the **CURSOR** △ or ▽ button to select the menu, then press the **ENTER** button.

3 Press the **ENTER** button to enter the selected menu.

4 To change a setting, first select it pressing the **CURSOR** △ or ▽ button, and then change the setting pressing the **CURSOR** ◁ or ▷ button.

5 Press the **ENTER** button to set the new settings.

6 Press the **SETUP** button to return "System Setup Menu", and again to return the main screen.

[On screen display] **[Display]**

2

```
System Setup Menu

 1. Auto Setup/Room EQ
 2. Speaker Setup
☞3. Audio Input Setup
 4. Video Setup
 5. Advanced Playback
 6. Option Setup

 Exit
```

```
                    3
*System Setup
Audio In Setup
```

3

```
3. Audio Input Setup

☞1. Digital In Assign
  2. EXT. IN Setup
  3. Input Function Lev.
  4. Function Rename
  5. IEEE1394 Assign
  6. IEEE1394 Auto Func.
  7. Tuner Presets
  Exit
```

```
                  3.1
*Audio In Setup
Digital In
```

4

```
3-1. Digital In Assign
☞ CD  : ◂COAX1▸   Tape : OPT4
  DVD : COAX2     V.Aux: OPT5
  VDP : COAX3
  TV  : OPT1
  DBS : OFF
  VCR-1 : OPT2
  VCR-2 : OPT3
  VCR-3 : OFF
                  Default Yes◂
```

```
                  3.1
*Digital In
CD     :◂COAX1▸
```

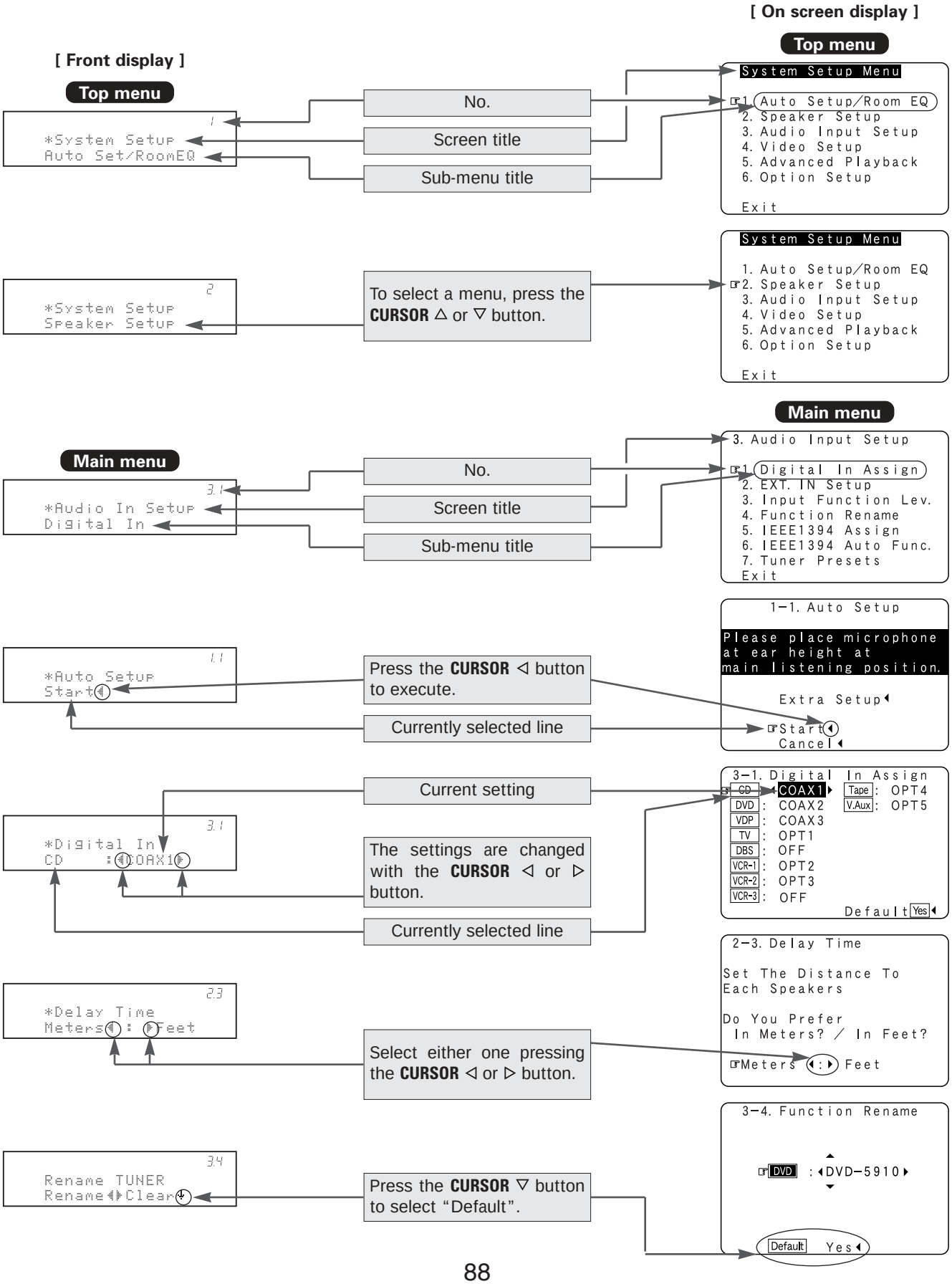
6

```
System Setup Menu

 1. Auto Setup/Room EQ
 2. Speaker Setup
 3. Audio Input Setup
 4. Video Setup
 5. Advanced Playback
 6. Option Setup

☞Exit
```

```
                    0
*System Setup
Exit
```

On screen display and front display

- The AVR-4806 is equipped with an intuitive and easy-to-understand on screen display, and is equipped with an alpha-numeric front panel display tube that can also be used to check and adjust settings. We recommend that you use the on screen display when you make system adjustments. Some representative front panel and on screen display examples are shown below.



Audio Input Setup

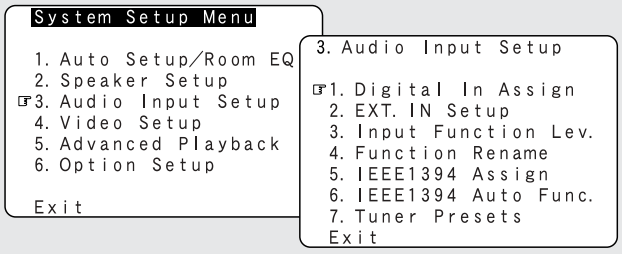
• Make the audio-related settings.

Setting the Digital In Assignment

• This setting assigns the digital input terminals of the AVR-4806 for the different input sources.

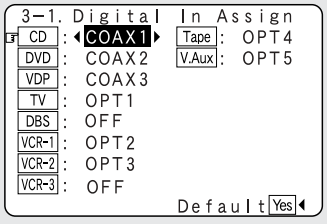
1 **Press the CURSOR △ or ▽ button to select "Audio Input Setup" at the "System Setup Menu", then press the ENTER button.**

• Display the "Audio Input Setup" menu screen.



2 **Press the CURSOR △ or ▽ button to select "Digital In Assign", then press the ENTER button.**

• Display the "Digital In Assign" screen.



3 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the digital input terminal.**

※ Select from among COAX 1 to 3, OPT 1 to 5.
※ If the same digital input terminal is selected, the setting for the input source that was previously assigned switches to "OFF".
※ The HDMI input terminal is displayed when it is assigned to the input source at "HDMI/DVI In Assign" (☞ page 96, 97).
※ If an input source is assigned to a device connected with an IEEE1394 cable at "IEEE1394 Assign", the digital input connector's assignment setting switches to "OFF".
※ If "Yes" is selected for "Default", the settings are automatically reset to the default values.

4 **Press the ENTER button to enter the setting.**

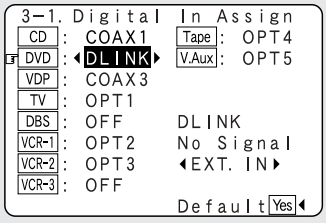
• The "Audio Input Setup" menu reappears.

• The OPTICAL 2, 3 and 4 terminals on the AVR-4806's rear panel are equipped with an optical digital output terminal for recording digital audio signals to a CD recorder, MD recorder, or other digital audio recording deck. Use this for digital recording between a digital audio source (stereo – 2 channel) and a digital audio recorder.
• "PHONO" and "TUNER" cannot be selected on the "Digital In Assignment" screen.

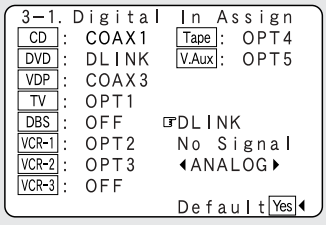
Setting the DENON LINK

- When a DENON DVD player and the DENON LINK have been connected, be sure to make a setting to "DENON LINK" with the System Setup Digital In Assignment.
- When the input mode is AUTO and the signals are not be able to transferred by DENON LINK, the unit automatically changes over the input to the selected signals (ANALOG, EXT. IN or IEEE1394).
- Refer to "DENON LINK connections" (☞ page 34).

1 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the "DLINK".**



2 **Press the CURSOR △ or ▽ button to select the "DLINK" setting, then press the CURSOR ◁ or ▷ button to select the input signal (ANALOG, EXT. IN or IEEE1394).**



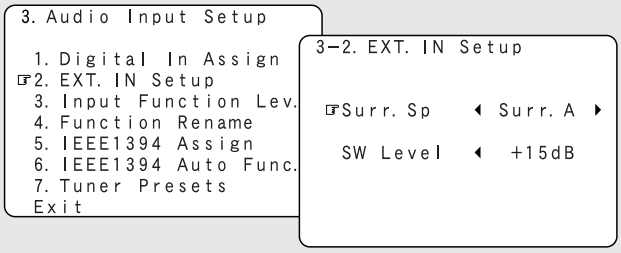
※ Select the input for the playback of signals that cannot be transferred by DENON LINK.

Setting the EXT. IN Setup

- Set the method of playback of the analog input signal connected to the EXT. IN (8CH) terminal.
- Refer to "Connecting the external inputs (EXT. IN) terminals" (☞ page 30).

1 **Press the CURSOR △ or ▽ button to select the "EXT. IN Setup" at the "Audio Input Setup" menu, then press the ENTER button.**

- Display the "EXT. IN Setup" screen.



2 **Press the CURSOR △ or ▽ button to select the item to be set, then press the CURSOR ◁ or ▷ button to select the parameter.**

Surr. Sp:
Presets the surround speakers that are used in the EXT. IN mode.
Select according to the specifications of the player being used. Also refer to the player's operating instructions.

- **Surr. A:**
  Select when using surround speakers A.
- **Surr. B:**
  Select when using surround speakers B.
- **Surr. A+B:**
  Select when using both surround speakers A and B.

SW Level:
Sets the playback level of the analog signal that was input to the EXT. IN subwoofer terminal.
Select according to the specifications of the player being used. Also refer to the player's operating instructions.
+15dB (default) recommended. (0, +5, +10 and +15 can be selected.)

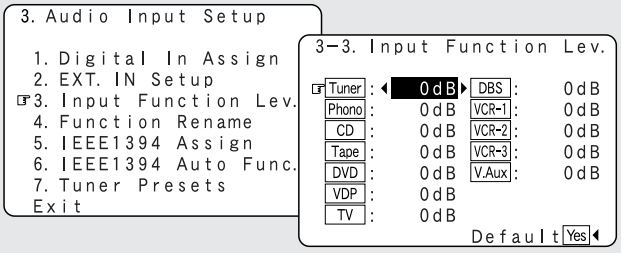
3 **Press the ENTER button to enter the setting.**

- The "Audio Input Setup" menu reappears.

Setting the Input Function Level

- Correct the playback level of the different input sources.
- Adjust the playback levels of the devices connected to the different input sources to the same level to eliminate the need for adjusting the main volume each time the input source is switched.

1 **Press the CURSOR △ or ▽ button to select the "Input Function Lev." at the "Audio Input Setup" menu, then press the ENTER button.**
- Display the "Input Function Lev." screen.



2 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to adjust the level.**

※ The level can be adjusted between –12 dB and +12 dB in units of 1 dB.
※ If "Yes" is selected for "Default", the settings are automatically reset to the default values.

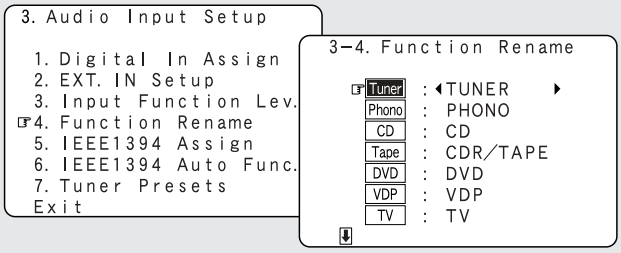
3 **Press the ENTER button to enter the setting.**
- The "Audio Input Setup" menu reappears.

- After completing this setting, check that the playback levels for the different sources are the same.

Setting the Function Rename

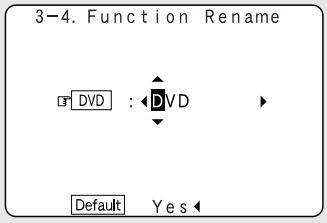
- The names of the input sources displayed on the front display and on the on-screen display can be changed. The names or brands of the devices connected to the input sources can be input.

1 **Press the CURSOR △ or ▽ button to select the "Function Rename" at the "Audio Input Setup" menu, then press the ENTER button.**
- Display the "Function Rename" screen.



2 **Press the CURSOR △ or ▽ button to select the input source whose name you want to change, then press the CURSOR ◁ or ▷ button.**
- The screen switches to the character input screen.

Example: When "DVD" is selected and the **CURSOR** ◁ or ▷ button is pressed



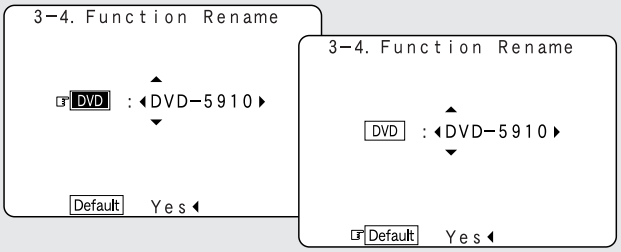
3 **Press the CURSOR ◁ or ▷ button to move the cursor (▮) to the character, number, symbol or punctuation mark you wish to input, and press the CURSOR △ or ▽ button to select that character.**

A B C D E F G H I J K L M N O P Q R S T U V W
X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y
z 0 1 2 3 4 5 6 7 8 9
! " # % & ' ( ) * + , – . / : ; < = > ? @ [\ ] (space)

※ Up to 8 characters can be input.

4 **Repeat step 3 to input the input source name.**

※ If you wish to set the input source back to as it was initially, press the **CURSOR** ▽ button with the input source highlighted.
※ If "Yes" is selected for "Default", the setting are automatically reset to the default name.



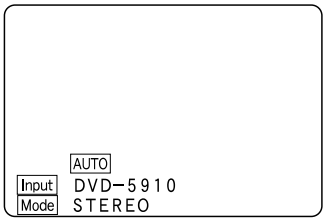
5 **Once all the characters have been input, press the ENTER button.**
• The "Function Rename" screen reappears.

※ Use the same procedure to change other input source names as well.

6 **Press the ENTER button to enter the setting.**
• The "Audio Input Setup" menu reappears.

• When the input source is selected, the display is as shown below.

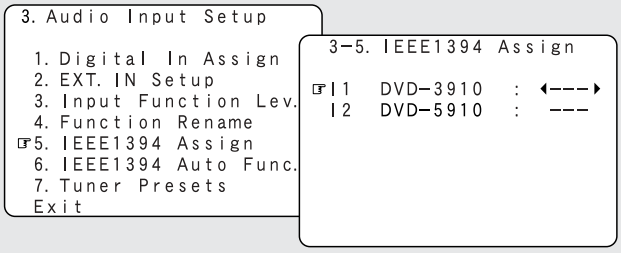
Example: When the name has been changed to "DVD-5910"



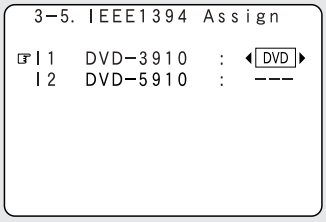
Setting the IEEE1394 Assign

• Assign the device connected by IEEE1394 cable to an input source. The power of the device to be assigned must be turned on ahead of time.

1 **Press the CURSOR △ or ▽ button to select the "IEEE1394 Assign" at the "Audio Input Setup" menu, then press the ENTER button.**
• Display the "IEEE1394 Assign" screen.



2 **Press the CURSOR △ or ▽ button to select the device to be assigned to the input source, then press the CURSOR ◁ or ▷ button to select the input source.**



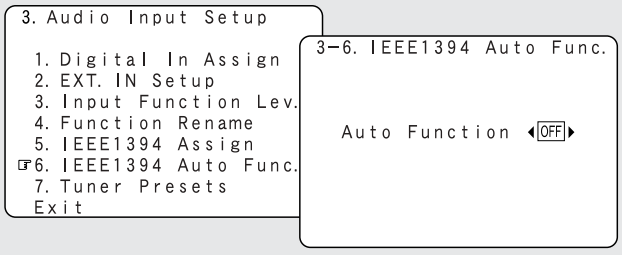
3 **Press the ENTER button to enter the setting.**
• The "Audio Input Setup" menu reappears.

• If you do not wish to assign the device connected by IEEE1394 cable to an input source, the IEEE1394 input can be selected by turning the **FUNCTION** knob. In this case, the connection information is cleared when the power of the connected device or the AVR-4806 is turned off, so the selection procedure must be performed again.
• By default, if no device has been connected using an IEEE1394 cable in the past, "No Connection" is displayed.
• "Connection Change" is displayed if there is a change in the IEEE1394 connection status while this screen is displayed.
• If the model name cannot be acquired from the connected IEEE1394 device, "UNKNOWN" is displayed.
• If an IEEE1394 device other than one for IEEE1394 audio playback is connected, "Not Play" is displayed and the input source cannot be assigned.

Setting the IEEE1394 Auto Function

• Set whether or not to automatically play the IEEE1394 device when it is selected with the **FUNCTION** knob.

1 **Press the CURSOR △ or ▽ button to select the "IEEE1394 Auto Func." at the "Audio Input Setup" menu, then press the ENTER button.**
• Display the "IEEE1394 Auto Func." screen.



2 **Press the CURSOR ◁ or ▷ button to select the "ON" or "OFF".**

ON:
Select this to automatically play the device.

OFF:
Select this if you do not want to automatically play the device.

※ In some cases settings may be required on your player. Also refer to the player's operating instructions.

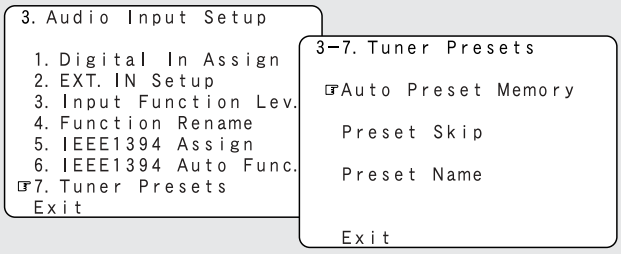
3 **Press the ENTER button to enter the setting.**
• The "Audio Input Setup" menu reappears.

Tuner Presets

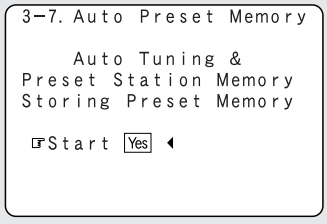
■ Auto Preset Memory

• Use this to automatically search for FM broadcasts and store up to 56 stations at preset channels A1 to 8, B1 to 8, C1 to 8, D1 to 8, E1 to 8, F1 to 8 and G1 to 8.

1 **Press the CURSOR △ or ▽ button to select the "Tuner Presets" at the "Audio Input Setup" menu, then press the ENTER button.**
• Display the "Tuner Presets" screen.



2 **Press the CURSOR △ or ▽ button to select the "Auto Preset Memory", then press the ENTER button.**
• Switch to the "Auto Preset Memory" screen.



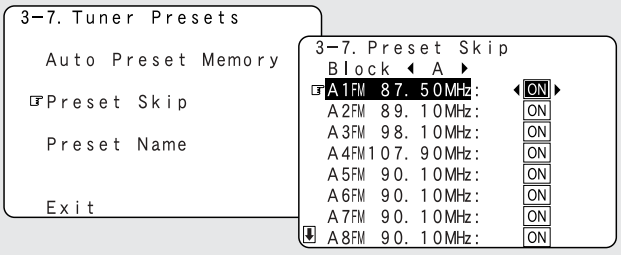
3 **Press the CURSOR ◁ button to select the "Yes".**
• "Search" flashes on the screen and searching begins.
• "Completed" appears once searching is completed.
• The display automatically switches to the "Tuner Presets" screen.

• If an FM station cannot be preset automatically due to poor reception, use the "Manual tuning" operation (☞ page 65) to tune in the station, then preset it using the manual "Preset memory" operation (☞ page 66).

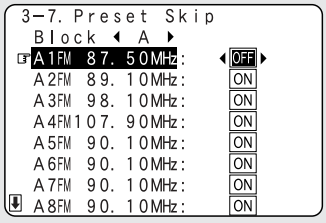
■ Preset Skip

- When selecting preset channels pressing the **PRESET** button, it is possible to skip specific preset channels.

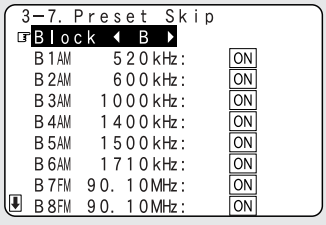
1 **Press the CURSOR △ or ▽ button to select the "Preset Skip" at the "Tuner Presets" screen, then press the ENTER button.**
- Switch to the "Preset Skip "screen.



2 **Press the CURSOR △ or ▽ button to select the preset channel you want to skip, then press the CURSOR ◁ or ▷ button to select the "ON" or "OFF".**



3 **When the CURSOR ▽ button is pressed at the very bottom of the screen.**
- The screen for the next preset memory block appears.



※ It is also possible to select the desired preset memory block by selecting "Block" then pressing the **CURSOR** ◁ or ▷ button.

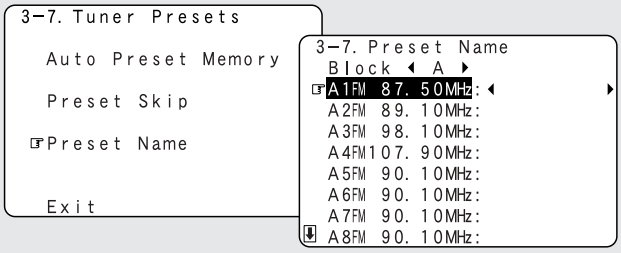
4 **Repeat steps 2 and 3.**

5 **Press the ENTER button.**
- Return to the "Tuner Presets" screen.

■ Preset Name

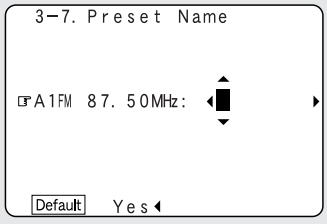
- It is possible to input station names , etc., for preset channels. These names are displayed on the front display and on the on screen display.

1 **Press the CURSOR △ or ▽ button to select the "Preset Name" at the "Tuner Presets" screen, then press the ENTER button.**
- Switch to the "Preset Name" screen.



2 **Press the CURSOR △ or ▽ button to select the preset channel whose name you want to change, then press the CURSOR ◁ or ▷ button.**
- The screen switches to the character input screen.

Example: When "A1" is selected and the **CURSOR** ◁ or ▷ button is pressed



3 **Press the CURSOR ◁ or ▷ button to move the cursor (▮) to the character, number, symbol or punctuation mark you wish to input, and press the CURSOR △ or ▽ button to select that character.**

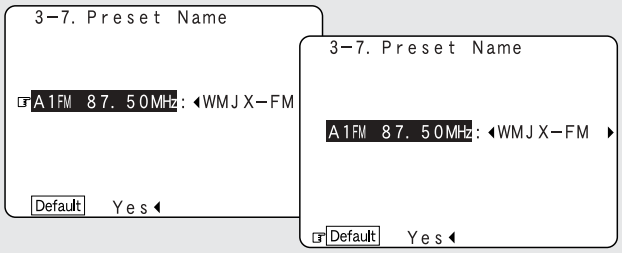
A B C D E F G H I J K L M N O P Q R S T U V W
X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y
z 0 1 2 3 4 5 6 7 8 9
! " # % & ' ( ) * + , – . / : ; < = > ? @ [\ ] (space)

※ Up to 8 characters can be input.

4 **Repeat step 3 to input the preset channel name.**

※ If you wish to set the preset channel name back to as it was initially, press the **CURSOR** ▽ button with the preset channel name highlighted.

※ If “Yes” is selected for “Default”, the setting are automatically reset to the default name.



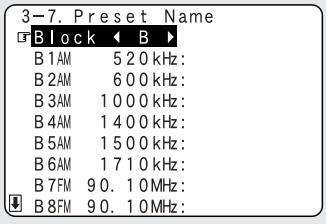
5 **Once all the characters have been input, press the ENTER button.**

• The “Preset Name” screen reappears.

※ Use the same procedure to change other input source names as well.

6 **When the CURSOR ▽ button is pressed at the very bottom of the screen.**

• The screen for the next preset memory block appears.



※ It is also possible to select the desired preset memory block by selecting “Block” then pressing the **CURSOR** ◁ or ▷ button.

7 **Press the ENTER button.**

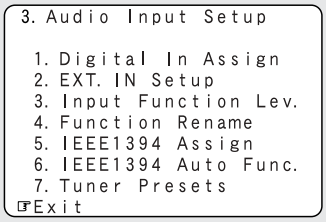
• Return to the “Tuner Presets” screen.

8 **Press the ENTER button to enter the setting.**

• The “Audio Input Setup” menu reappears.

9 **Press the CURSOR △ or ▽ button to select “Exit”, then press the ENTER button.**

• The “System Setup Menu” reappears.



Video Setup

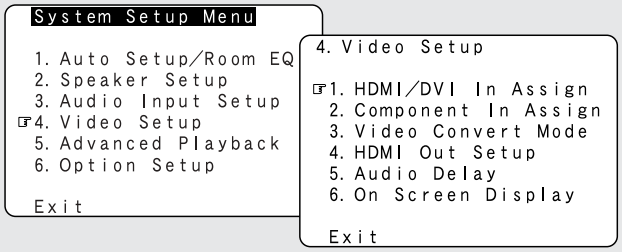
- Make the video-related settings.

Setting the HDMI / DVI In Assign

- This setting assigns the HDMI input terminals and DVI input terminal for different input sources.
- Set the method for playing the audio signals included in the HDMI input signal.

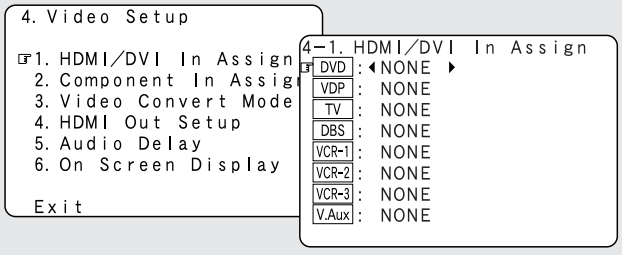
1 **Press the CURSOR △ or ▽ button to select the "Video Setup" at the "System Setup Menu", then press the ENTER button.**

- Display the "Video Setup" menu screen.



2 **Press the CURSOR △ or ▽ button to select the "HDMI / DVI In Assign", then press the ENTER button.**

- Display the "HDMI / DVI In Assign" screen.



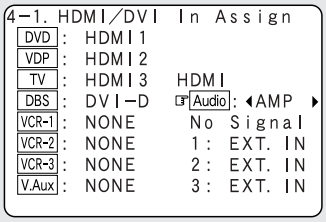
3 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the input terminal.**

※ Select from among HDMI1 to 3 and DVI-D.
※ If the same HDMI or DVI input terminal is selected, the setting for the input source that was previously assigned switches to "NONE".

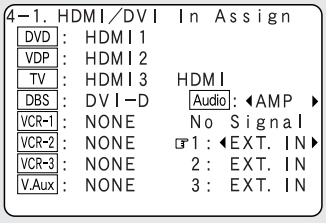
4 **Press the CURSOR △ or ▽ button to select the method for playing the audio signals included in the HDMI input signal, then press the CURSOR ◁ or ▷ button to select the "TV" or "AMP".**

TV:
Play the audio signals on a monitor TV connected to the AVR-4806.

AMP:
Play the audio signals on speakers connected to the AVR-4806.


4-1. HDMI/DVI In Assign
DVD : HDMI1
VDP : HDMI2
TV : HDMI3 HDMI
DBS : DVI-D ☞Audio : ◂AMP ▸
VCR-1 : NONE No Signal
VCR-2 : NONE 1 : EXT. IN
VCR-3 : NONE 2 : EXT. IN
V.Aux : NONE 3 : EXT. IN

5 **Press the CURSOR △ or ▽ button to select the input for the playback of signals when the audio signal of HDMI can not be reproduced, then press the CURSOR ◁ or ▷ button to select the input signal (ANALOG or EXT. IN).**


4-1. HDMI/DVI In Assign
DVD : HDMI1
VDP : HDMI2
TV : HDMI3 HDMI
DBS : DVI-D Audio : ◂AMP ▸
VCR-1 : NONE No Signal
VCR-2 : NONE ☞1 : ◂EXT. IN ▸
VCR-3 : NONE 2 : EXT. IN
V.Aux : NONE 3 : EXT. IN

※ When the audio signal of HDMI has become unlocked, the unit automatically changes over to the set connector (ANALOG or EXT. IN).
※ 1~3 correspond to each HDMI 1~3 input terminal.

6 **Press the ENTER button to enter the setting.**

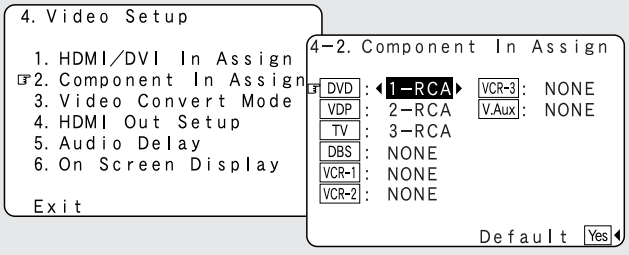
- The "Video Setup" menu reappears.

- If a monitor is connected with an HDMI cable but the monitor is not compatible with HDMI audio signal playback, only the video signals are output to the monitor from the AVR-4806 (DVI mode).
  Press the **STATUS** button to check which mode is set for outputting HDMI signals from the AVR-4806 (HDMI and DVI modes).
- Input signals input from the analog and digital terminals are not output to the TV.
- With HDMI, the video and audio signals are transferred simultaneously. When HDMI is assigned to an input source, the digital audio input assignment switches to HDMI along with the video input.
  When this setting is made for input sources to which a digital audio input (DENON LINK, IEEE1394 etc.) is previously assigned, the digital audio assignment is set to HDMI.
  In this case, reassign the digital input using the procedure described at "Digital In Assign" (☞page 89) and "IEEE1394 Assign" (☞page 92).

Setting the Component In Assign

- This setting assigns the component video input terminal of the AVR-4806 for the different input sources.

1 **Press the CURSOR △ or ▽ button to select the "Component In Assign" at the "Video Setup" menu, then press the ENTER button.**
- Display the "Component In Assign" screen.



2 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the component video input terminal.**

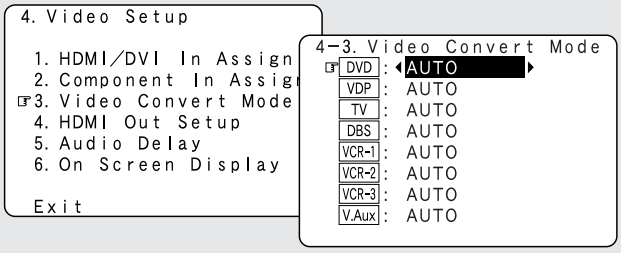
※ Select from among 1-RCA to 3-RCA.
※ If the same component video input terminal is selected, the setting for the input source that was previously assigned switches to "NONE".
※ If "Yes" is selected for "Default", the settings are reset to the default values.

3 **Press the ENTER button to enter the setting.**
- The "Video Setup" menu reappears.

Setting the Video Convert Mode

- Select the input signal to be output to the composite S-Video and component monitor output terminals using the video conversion function.

1 **Press the CURSOR △ or ▽ button to select the "Video Convert Mode" at the "Video Setup" menu, then press the ENTER button.**
- Display the "Video Convert Mode" screen.



2 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the mode as below.**

AUTO ↔ Component ↔ S-video ↔ Video ↔ OFF

※ The details in each mode are as follows.

AUTO:
When there are multiple input signals, the input signals are detected and the input signal to be output from the video monitor output terminal is selected automatically in the following order: component video, S-Video, composite video.

Component:
The signal connected to the component video terminal is always played.
The component input signal is down–converted and output from the composite and S-Video monitor output terminal.
No image is output from the monitor output terminal when there is no input signal to the component input terminal.

S-Video:
The signal connected to the S-Video terminal is always played.
The S-Video input signal is converted and output from the composite and component monitor output terminal.

Video:
The signal connected to the composite video terminal is always played.
The composite video input signal is up-converted and output from the S-Video and component monitor output terminals.

OFF:
The convert function does not operate.
The video signal input from the video input terminal is only output to the video monitor out terminal.
The S-Video signal input from the S-Video input terminal is only output to the S-Video monitor out terminal.
The component input signal input from the component input terminals is only output to the component monitor output terminals.

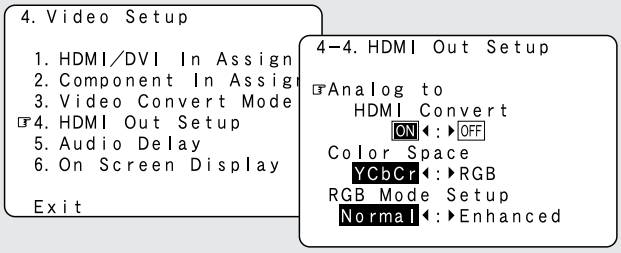
3 Press the ENTER button to enter the setting.
• The "Video Setup" menu reappears.

- Down-converting from the component video signal to the S-Video and composite video signal is possible only when the resolution of a component video signal is 480i / 576i.
- For optimum video performance, THX recommends that video pass through (bypass) is used.
- When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate. If this happens, please set the conversion mode to OFF.
- When the video conversion function has been used, information such as that of text broadcasts which has been added to the video signal might not be output. If this happens, please set the conversion mode to OFF.

Setting the HDMI Out Setup

- Set whether to use the analog video signals to HDMI conversion function.
- When using this conversion function, set the color format and video range of the signals output from the HDMI terminal.

1 Press the CURSOR △ or ▽ button to select the "HDMI Out Setup" at the "Video Setup" menu, then press the ENTER button.
• Display the "HDMI Out Setup" screen.



2 Press the CURSOR △ or ▽ button to select the setting, then press the CURSOR ◁ or ▷ button to select the parameter.

Analog to HDMI Convert:
- **ON:**
  Setting for converting analog video signals into HDMI signals.
- **OFF:**
  Setting for not converting analog video signals into HDMI signals.

Color Space:
- **Y Cb Cr:**
  The Y Cb Cr format video signals is output via the HDMI output connector.
- **RGB:**
  The RGB format video signals is output via the HDMI output connector.

RGB Mode Setup:
- **Normal:**
  Signals are output via the HDMI output connector with a digital RGB video range (data range) of 16 (black) to 235 (white).
- **Enhanced:**
  Signals are output via the HDMI output connector with a digital RGB video range (data range) of 0 (black) to 255 (white).

※ When the HDMI and the DVI-D connectors are connected, the black may seem to stand out, depending on the TV or the monitor. In this case, set this to "Enhanced".
※ When "Y Cb Cr" is selected under "Color Space", "RGB Mode Setup" will have no effect.

3 Press the ENTER button to enter the setting.
• The "Video Setup" menu reappears.

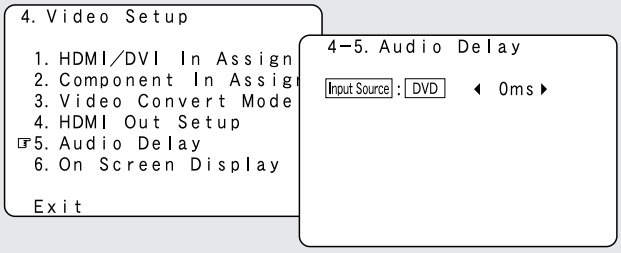
- “Color Space” and “RGB Mode Setup” are only displayed when “Analog to HDMI Convert” is set to “ON”.
- When connecting to an HDCP compatible monitor equipped with DVI-D terminal using an HDMI/DVI-D converter cable, the signals are output in RGB format, regardless of the “Color Space” setting.
- To view the on-screen display using an HDMI monitor, set “Analog to HDMI Convert” at “HDMI Out Setup” to “ON” (default).

Setting the Audio Delay

- When watching a DVD or other video source, the picture on the monitor may seem delayed with respect to the sound. In this case, adjust the audio delay to delay the sound and synchronize it with the picture.
- The audio delay setting is stored separately for each input source.

1 **Press the CURSOR △ or ▽ button to select the “Audio Delay” at the “Video Setup” menu, then press the ENTER button.**

- Display the “Audio Delay” screen.



2 **Press the CURSOR ◁ or ▷ button to set the delay time (0 ms ~ 200 ms).**

※ With a movie source, for example, adjust so that the movement of the actors’ lips is synchronized with the sound.

3 **Press the ENTER button to enter the setting.**

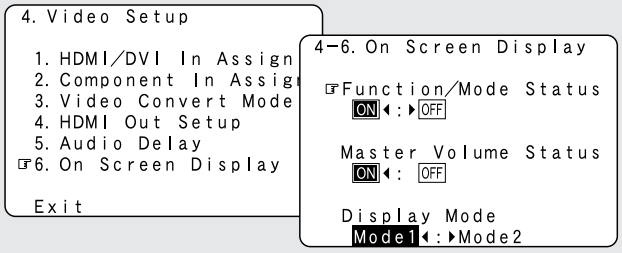
- The “Video Setup” menu reappears.

- The audio delay setting does not apply when playing in the EXT. IN mode or in the analog input direct mode or stereo mode (only when the crossover frequency is set to “FIXED–THX–” (TONE DEFEAT “ON”, Room EQ “OFF”).
- By default, this menu is not displayed when no digital signals are being input.

Setting the On Screen Display (OSD)

- Use this to turn the on screen display (messages other than the menu screens) on or off.
- Sets the on screen display's display mode.

1 **Press the CURSOR △ or ▽ button to select the "On Screen Display" at the "Video Setup" menu, then press the ENTER button.**
- Display the "On Screen Display" screen.



2 **Press the CURSOR △ or ▽ button to select the item to be set, then press the CURSOR ◁ or ▷ button to select the parameter.**

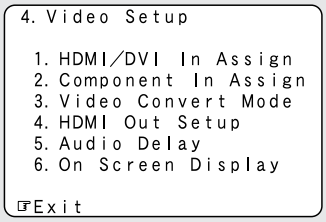
Function/Mode Status:
Set whether or not to turn on the on screen display of the input source name and input mode when an input source is selected.

Master Volume Status:
Set whether or not to turn on the on screen display of the main volume level when the main volume is operated.

Display Mode:
- **Mode 1:**
  Prevents flickering of the on screen display when there is no video signal.
- **Mode 2:**
  Flickering is not prevented.
  Use this mode if the on screen display does not appear in the Mode 1, as may happen according to the TV being used.

3 **Press the ENTER button to enter the setting.**
- The "Video Setup" menu reappears.

4 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- The "System Setup Menu" reappears.



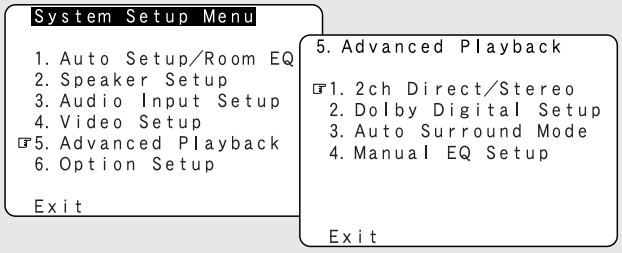
Advanced Playback

• Makes more detailed audio playback settings.

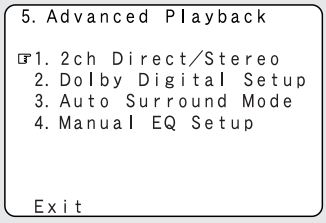
Setting the 2ch Direct/Stereo

• Set this when you want to change the speaker settings when the surround mode is set to the 2-channel Direct or Stereo mode.

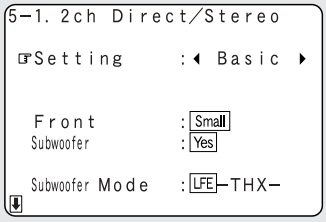
1 **Press the CURSOR △ or ▽ button to select the "Advanced Playback" at the "System Setup Menu", then press the ENTER button.**
• Display the "Advanced Playback" menu screen.

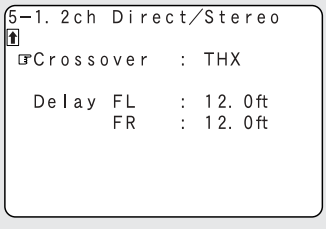


2 **Press the CURSOR △ or ▽ button to select the "2ch Direct / Stereo", then press the ENTER button.**
• Display the "2ch Direct / Stereo" screen.

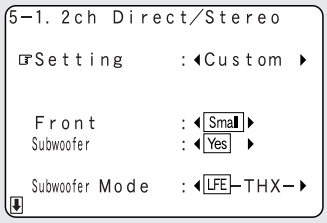


Example: This screen is displayed in function of the settings made at "Speaker Configuration", "Subwoofer Setup", "Delay Time" and "Crossover Frequency"





3 **Press the CURSOR ◁ or ▷ button to select the "Custom".**



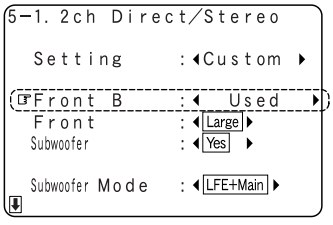
4 **Press the CURSOR △ or ▽ button to select the setting, then press the CURSOR ◁ or ▷ button to select the parameter.**

5 **Press the ENTER button to enter the setting.**
• The "Advanced Playback" menu reappears.

■ Setting the front B speakers when the surround mode is set to the 2-channel Direct or Stereo

• When "Front B" is selected at "Power Amp Assign" and "Custom" is selected at this setting, the "Front B" setting is displayed.

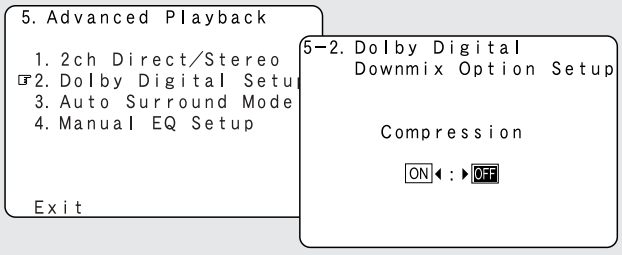
※ To play signals from the Front B speaker when in the 2-channel Direct or Stereo mode, set "Used".



Setting the Dolby Digital Setup

- Sets the down-mixing method when not using a center speaker or surround speakers.

1 **Press the CURSOR △ or ▽ button to select the "Dolby Digital Setup" at the "Advanced Playback" menu, then press the ENTER button.**
- Display the "Dolby Digital Setup" screen.



2 **Press the CURSOR ◁ or ▷ button to select the "ON" if you want to use the Compression, "OFF" if you do not want to use it.**

ON:
The dynamic range is compressed automatically according to the combination of speakers being used.

OFF:
The dynamic range is not compressed.

※ Set "Compression" to "ON" if it seems that sound is distorted because the input level exceeds the allowable input for the front speakers.

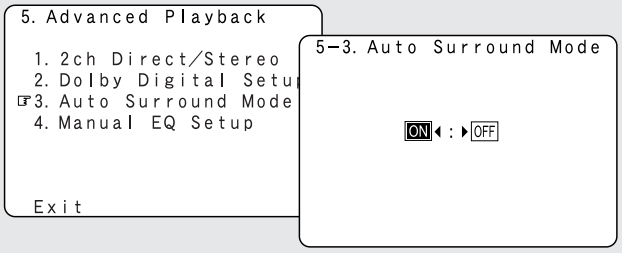
※ When a center speaker or surround speakers are not connected, the sounds in those channels are directed to the front speakers.

3 **Press the ENTER button to enter the setting.**
- The "Advanced Playback" menu reappears.

Setting the Auto Surround Mode

- The surround mode used at last for the four types of input signals shown below is stored in the memory, and the signal is automatically played with that surround mode the next time it is input.
  Note that the surround mode setting is also stored separately for the different input sources.
  ① Analog and PCM 2-channel signals (STEREO)
  ② 2-channel signals of Dolby Digital, DTS or other multi-channel format (DOLBY PLⅡx cinema)
  ③ Multi-channel signals of Dolby Digital, DTS or other multi-channel format (DOLBY/DTS SURROUND)
  ④ PCM and DSD multi-channel signals other than Dolby Digital and DTS (MULTI CH IN)
  ※ Default settings are indicated in ( ).
  ※ During playback in the PURE DIRECT mode, the surround mode does not change even if the input signal is changed.

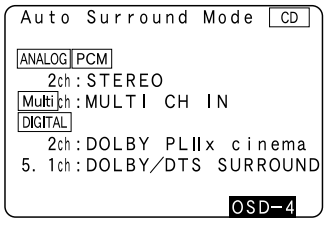
1 **Press the CURSOR △ or ▽ button to select the "Auto Surround Mode" at the "Advanced Playback" menu, then press the ENTER button.**
- Display the "Auto Surround Mode" screen.



2 **Press the CURSOR ◁ or ▷ button to select the "ON" if you want to use the auto surround mode, "OFF" if you do not want to use it.**

3 **Press the ENTER button to enter the setting.**
- The "Advanced Playback" menu reappears.

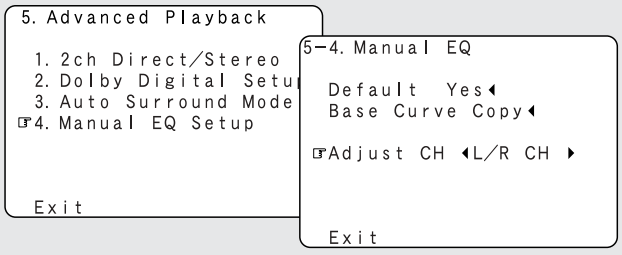
- The various settings applied in the auto surround mode can be checked via the on screen display. Simply press the **ON SCREEN** button.



Setting the Manual EQ Setup

- Allows you to adjust the tonal quality of the various speakers (except the subwoofer) while listening to a music source.

1 **Press the CURSOR △ or ▽ button to select the "Manual EQ Setup" at the "Advanced Playback" menu, then press the ENTER button.**
- Display the "Manual EQ" screen.



2 **Press the CURSOR ◁ or ▷ button to select the adjustment mode, then press the ENTER button.**

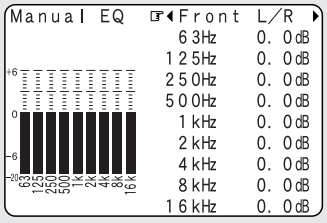
All CH:
All channels can be adjusted simultaneously.

L/R CH:
The left and right channels of the pair of speakers can be adjusted simultaneously.

Each CH:
The channels can be adjusted separately.

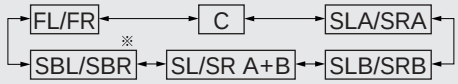
3 **Press the CURSOR ◁ or ▷ button to select the speaker to be set.**

Example: When "L/R CH" is selected.

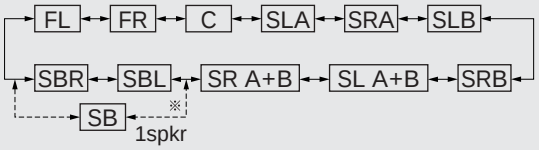


※ The display changes as follows.

① Select the "L/R CH"



② Select the "Each CH"



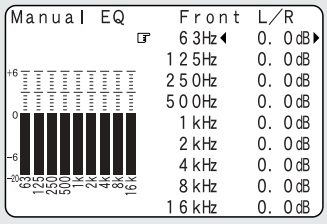
※ When the surround back speaker setting is set to "1spkr" at "Speaker Configuration", this is set to "SB".

③ Select the "All CH"
In this case, speaker selection is not performed.

※ If a value is already set for the FL channel, the data stored for the FL channel is displayed.

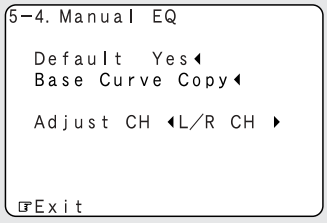
4 **Press the CURSOR △ or ▽ button to select the frequency, then press the CURSOR ◁ or ▷ button to adjust the gain level.**

※ Each frequency can be adjusted the range from –20 dB to +6 dB in 0.5 dB step.

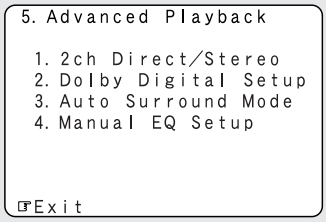


5 **Press the ENTER button to enter the setting.**
- The "Manual EQ" screen reappears.

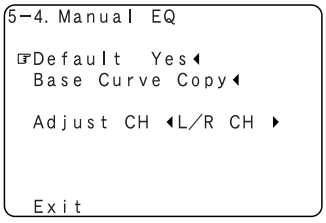
6 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- The "Advanced Playback" menu reappears.



7 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- The "System Setup Menu" reappears.

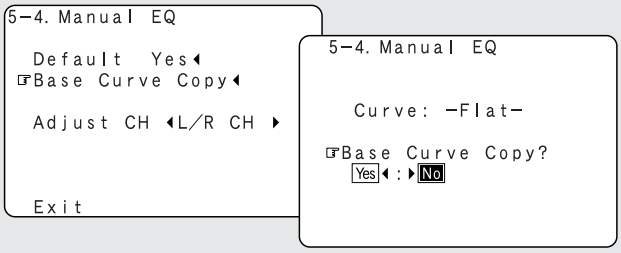


- "Base Curve Copy" is displayed after performing the Auto Setup.
- To restore the settings to their defaults, select "Default Yes ◀", then press the **CURSOR** ◁ button.

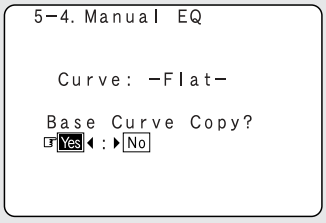


Procedure for copying the "Flat" correction curve

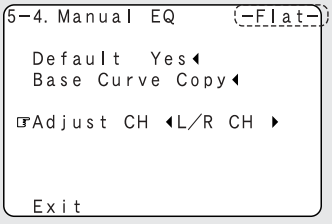
1 **Press the CURSOR △ button to select the "Base Curve Copy", then press the CURSOR ◁ button.**



2 **Press the CURSOR ◁ button to select the "Yes".**



3 **Press the ENTER button to enter the setting.**
- The "Manual EQ" screen reappears.



※ The type of the copied correction curve is displayed in the upper right of this screen.

- If the "Auto Setup" procedure has not been performed, this item is not displayed.

Option Setup

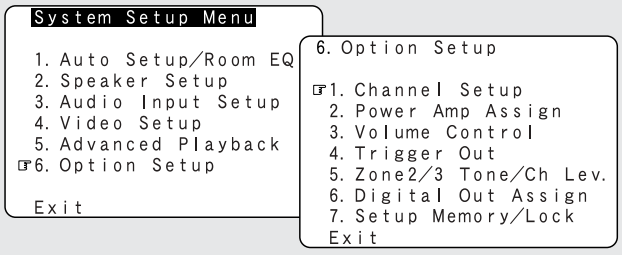
• Make other expert settings.

Setting the Channel Setup

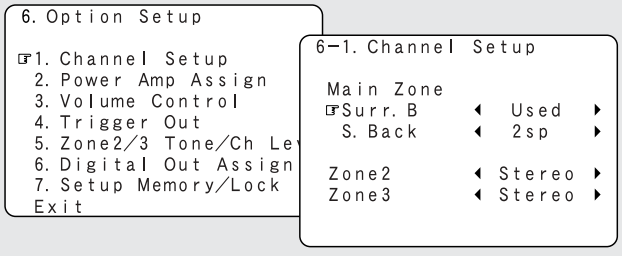
• With this setting it is possible to change the number of channels played in the different zones according to the purpose.
This configures the AVR-4806 according to whether or not you have surround "B" speakers connected, and whether or not you have surround back (SB) speaker(s) connected.
The number of channels output from the pre-out connectors exclusively for ZONE2 and 3 can be set to "Mono" or "Stereo" according to the method of playback in the various multi-zones.

※ Adjustments made in this section will have an effect on the various "Power Amp Assign" setting options (☞ page 106, 107).

1 **Press the CURSOR △ or ▽ button to select the "Option Setup" at the "System Setup Menu", then press the ENTER button.**
• Display the "Option Setup" menu screen.



2 **Press the CURSOR △ or ▽ button to select the "Channel Setup", then press the ENTER button.**
• Display the "Channel Setup" screen.



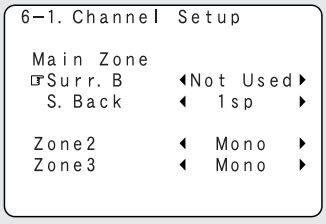
3 **Press the CURSOR △ or ▽ button to select the zone, then press the CURSOR ◁ or ▷ button to select the channel setting.**

Main Zone:
• **Surr. B:**
Not Used:
Select if you do not have speakers connected to Surround "B".
Used:
Select if you have speakers connected to Surround "B".
• **S. Back:**
2sp:
Select if you have a pair of surround back speakers connected (SBL & SBR).
1sp:
Select if you have one surround back speaker connected to SBL.
Not Used:
Select if you do not have surround back speaker(s).

Zone2:
• **Stereo:**
Select for stereo playback in ZONE2 (two channels).
• **Mono:**
Select for monaural playback in ZONE2 (one channel).

Zone3:
• **Stereo:**
Select for stereo playback in ZONE3 (two channels).
• **Mono:**
Select for monaural playback in ZONE3 (one channel).

※ If "Mono" is selected for ZONE2 or ZONE3, monaural (single channel) sound is output from both of the ZONE2 or ZONE3 left and right channels pre-amp output terminals.



4 **Press the ENTER button to enter the setting.**
• The "Option Setup" menu reappears.

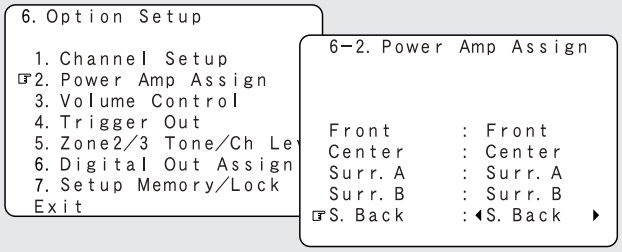
Setting the Power Amplifier Assignment

- AVR-4806's power amplifiers for seven channels (except the front channel), can be assigned to any channels in the MAIN ZONE, ZONE2 or ZONE3 and output to the speakers. In this way, power amplifiers not being used in the MAIN ZONE can be assigned for multi-zone use, the front speakers can be connected with a "Bi-Amp", etc., so you can create the desired speaker system.

※ The available power amplifier channels that can be re-assigned may differ, according to settings previously made in the "Channel Setup" menu (☞ page 105).

1 Press the CURSOR △ or ▽ button to select the "Power Amp Assign" at the "Option Setup" menu, then press the ENTER button.

- Display the "Power Amp Assign" screen.



2 Press the CURSOR △ or ▽ button to select the power amplifier to be assigned, then press the CURSOR ◁ or ▷ button to select which channel to assigned the amplifier to.

Center:
If no center speaker is connected in the main room, the center speaker power amplifier channel can be assigned to either ZONE2 or ZONE3 if set to "Mono" at "Channel Setup".

- **ZONE2:**
  The second zone's mono output is provided by the center speaker's power amplifier.
- **ZONE3:**
  The third zone's mono output is provided by the center speaker's power amplifier.
- **– – –:**
  No signals are output from the center speaker's power amplifier channel.

Surr. A:
The Surround A power amplifier channels can be assigned if Surround B is not activated in the main room (MAIN ZONE).

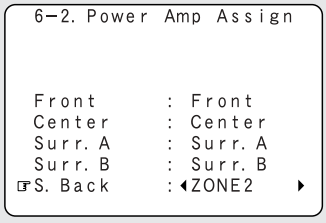
- **Front:**
  This provides a bi-amp mode for the two main front speakers, replicating the front left and front right amplifier channels' outputs.
- **Front B:**
  The surround A power amplifier channels can be used to provide a second set of stereo outputs that match the front left and right speakers, providing a Speaker B option for stereo sound in another location (☞ page 101).
- **ZONE2:**
  This mode assigns the Surround A amplifier channels to provide ZONE2 speaker-level outputs from the Surround A speaker terminals, with the option of monaural or stereo operation depending on the "Channel Setup" setting.
- **ZONE3:**
  This mode assigns the Surround A amplifier channels to provide ZONE3 speaker-level outputs from the Surround A speaker terminals, with the option of monaural or stereo operation depending on the "Channel Setup" setting.
- **– – –:**
  No signals are output from the Surround A speaker terminals.

Surr. B:
The Surround B amplifier channels can be re-assigned if they are not being used in the main room, and the Surround A amplifier channels are assigned to either the surround channels or to the front channels.

- **Front B:**
  This mode sets the Surround B amplifier channels to drive a second set of stereo outputs that match the front left and right speakers, providing a Speaker B option for stereo sound in another location (☞ page 101).
- **– – –:**
  No signals are output from the surround back speaker terminals.

S. Back:
If no surround back speakers are used in the main room, their amplifier channels can be assigned for other uses, or one of the two channels can drive one surround back speaker in the main room, while the other channel can drive a monaural speaker in another zone.

- **Front:**
  This provides a bi-amp mode for the two main front speakers, replicating the front left and front right amplifier channels' outputs.
- **Front B:**
  Both surround back power amplifier channels can be used to provide a second set of stereo outputs that match the front left and right speakers, providing a Speaker B option for stereo sound in another location (☞ page 101).
- **ZONE2:**
  This mode assigns the Surround Back amplifier channels to provide ZONE2 speaker-level outputs from the Surround Back speaker terminals, with the option of monaural or stereo operation depending on the "Channel Setup" setting.
- **ZONE3:**
  This mode assigns the Surround Back amplifier channels to provide ZONE3 speaker-level outputs from the Surround Back speaker terminals, with the option of monaural or stereo operation depending on the "Channel Setup" setting.
- **SB/Z2:**
  When only one surround back speaker is used in the main room (connected to the SBL speaker terminals), the surround back right amplifier channel can be used to provide monaural output to a speaker located in ZONE2.
- **SB/Z3:**
  When only one surround back speaker is used in the main room (connected to the SBL speaker terminals), the surround back right amplifier channel can be used to provide monaural output to a speaker located in ZONE3.
- **Z2/Z3:**
  When no surround back speakers are used in the main room, this mode provides monaural sound to a speaker in ZONE2 connected to the SBL speaker terminals, with monaural sound to a speaker in ZONE3 connected to the SBR speaker terminals.
- **SB/– – –:**
  Only the Surround Back Left speaker terminals are active.
- **– – –:**
  Both Surround Back speaker terminals are inactive.

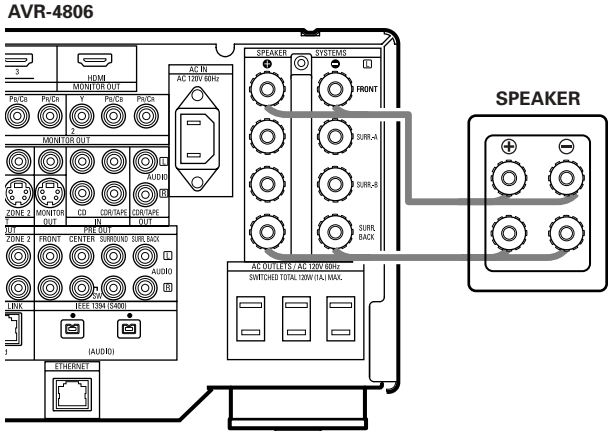


3 **Press the ENTER button to enter the setting.**
- The "Option Setup" menu reappears.

- The "SB/Z2", "SB/Z3" and "SB/- - -" modes can only be selected when the surround back speaker configuration is set to "1spkr".
- The "Z2/Z3" mode can only be selected if the playback channels are configured as monaural ("Mono") in the "Channel Setup" menu.

Front Bi-Amp connections

Certain loudspeakers are equipped with two sets of input terminals, for bi-amplification. The AVR-4806 Amp Assign mode allows you to power bi-amp-capable speakers with two amplifier channels. Be sure to consult the owner's manual of your bi-amp-capable speakers for further information before proceeding.



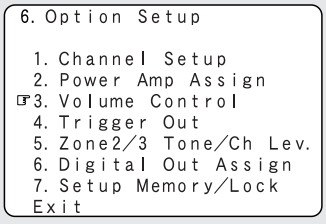
NOTE:
- When making bi-amp connections, be sure to remove the short-circuiting bar included with the speaker.

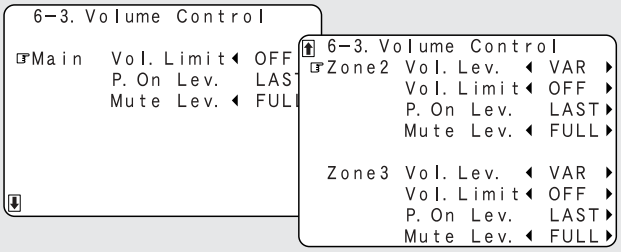
Setting the Volume Control

- Set the upper limit for the volume, the volume level when the power is turned on, and the volume level when the mute mode is set for the different zones.

1 Press the CURSOR △ or ▽ button to select the "Volume Control" at the "Option Setup" menu, then press the ENTER button.

- Display the "Volume Control" screen.




6–3. Volume Control
☞Main Vol. Limit ◂ OFF
P. On Lev. LAST
Mute Lev. ◂ FULL
6–3. Volume Control
☞Zone2 Vol. Lev. ◂ VAR ▸
Vol. Limit ◂ OFF ▸
P. On Lev. LAST ▸
Mute Lev. ◂ FULL ▸
Zone3 Vol. Lev. ◂ VAR ▸
Vol. Limit ◂ OFF ▸
P. On Lev. LAST ▸
Mute Lev. ◂ FULL ▸

2 Press the CURSOR △ or ▽ button to select the desired setting, then press the CURSOR ◁ or ▷ button to select the parameter.

Volume Limit:
Set the upper limit for the volume for the different zones.

- **–20 dB, –10 dB, 0 dB:**
  The volume cannot be increased above the selected levels.
- **OFF:**
  If you do not want to set a volume limit, select "OFF".
  In this case, the volume can be set to the AVR-4806's maximum volume (output) level of +18 dB, which is extremely loud.

Power On Level:
Set the volume that is set when the power is turned on for the different zones.
You can adjust the volume level within the range of –80 to +18 dB in steps of 1.0 dB.

- **– – – (Mute)**
  The volume is always muted when the power is turned on.
- **LAST**
  The volume set when the AVR-4806 was last used is stored in the memory and set when the power is turned on.

Mute Level:
Set the volume attenuation level when the mute mode is set for the different zones.

- **FULL**
  The volume is fully muted.
- **–40 dB**
  The volume is lowered 40 dB from the current level.
- **–20 dB**
  The volume is lowered 20 dB from the current level.

Volume Level:
Set whether to fix the output level for the different zones or make it variable.

- **Variable**
  The level can be adjusted freely using buttons on the remote control unit.
- **–40 dB, 0 dB**
  The output level is fixed at the set level and the volume can no longer be adjusted.

3 Press the ENTER button to enter the setting.

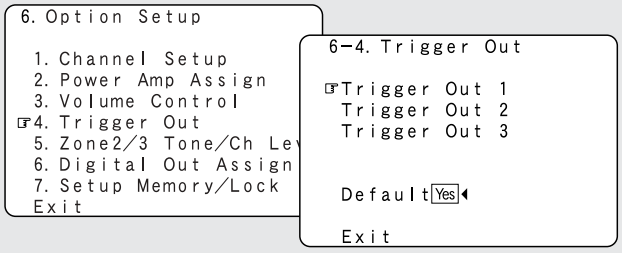
- The "Option Setup" menu reappears.

- For ZONE2 and ZONE3, the "Volume Limit" and "Power On Level" can be set when "Variable" is selected for "Volume Level".
- When the power amplifier is assigned to either of the ZONE2 and ZONE3 channels at "Power Amp Assign", "–VAR–" (only variable) is displayed and the fixed level cannot be set.

Setting the Trigger Out

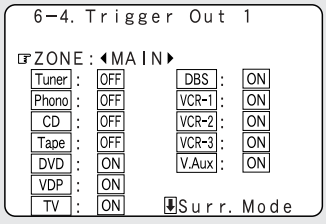
- Three 12 V DC Trigger Outputs on the rear panel can be used to control other devices with compatible trigger inputs, such as motorized screens, motorized screen masking, motorized drapes, and other trigger-controlled devices.
- Set the DC output supplied from the trigger out terminals for the various input sources to “ON” or “OFF”.

1 **Press the CURSOR △ or ▽ button to select the “Trigger Out” at the “Option Setup” menu, then press the ENTER button.**
- Display the “Trigger Out” screen.



2 **Press the CURSOR △ or ▽ button to select the trigger out terminal you want to set, then press the ENTER button.**
- Switch to the setting screen.

Example: When “Trigger Out 1” is selected



3 **Press the CURSOR ◁ or ▷ button to select the zone (MAIN ZONE, ZONE2 and ZONE3).**

※ The power supplied from the trigger out terminal turns on and off when the power for the set zone is turned on and off.

4 **Press the CURSOR △ or ▽ button to select the input source, then press the CURSOR ◁ or ▷ button to select the “ON” or “OFF”.**

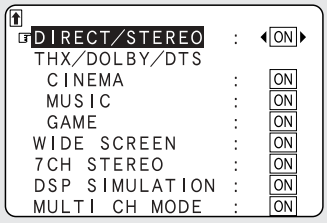
ON:
When that input source is selected, the power supplied from the trigger out terminal turns on.

OFF:
When that input source is selected, the power supplied from the trigger out terminal turns off.

5 **If “MAIN” was selected at step 3:**
Press the CURSOR △ or ▽ button to select the surround mode, then press the CURSOR ◁ or ▷ button to select the “ON” or “OFF”.

ON:
If that surround mode is selected when an input source set to “ON” is selected, the power supplied from the trigger out terminal turns on.

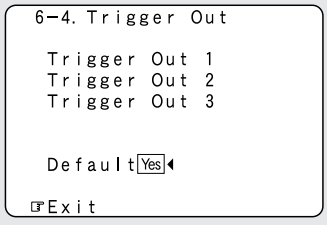
OFF:
If that surround mode is selected when an input source set to “ON” is selected, the power supplied from the trigger out terminal turns off.



6 **Press the ENTER button.**
- Return to the “Trigger Out” screen.

※ Use the same procedure to make the settings for Trigger Out 2, 3.

7 **Press the CURSOR △ or ▽ button to select the “Exit”, then press the ENTER button.**
- The “Option Setup” menu reappears.



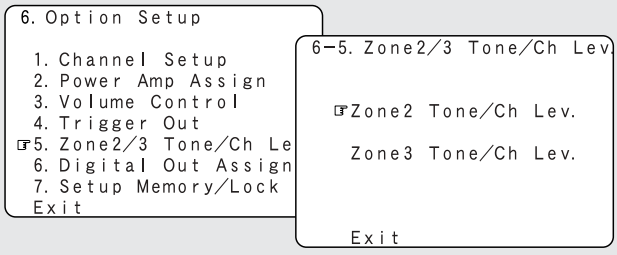
※ If “Yes” is selected for “Default”, the setting are automatically reset to the default values.

ZONE2 and ZONE3 tone control and channel level setting

• Adjust the sound output from ZONE2 and ZONE3.

1 **Press the CURSOR △ or ▽ button to select the "Zone2/3 Tone/Ch Lev." at the "Option Setup" menu, then press the ENTER button.**

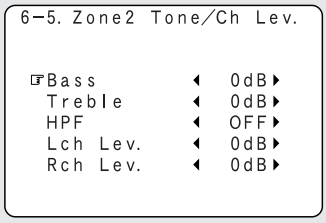
• Display the "Zone2/3 Tone/Ch Lev." screen.



2 **Press the CURSOR △ or ▽ button to select the zone whose sound you want to adjust (ZONE2, ZONE3), then press the ENTER button.**

• Switch to the setting screen.

Example: When "Zone2" is selected



3 **Press the CURSOR △ or ▽ button to select the item to be set, then press the CURSOR ◁ or ▷ button to adjust the parameter.**

Bass:
Adjust the tone for the bass.

Treble:
Adjust the tone for the treble. (The bass or treble sound can be adjusted between –12 dB and +12 dB in steps of 2.0 dB.)

HPF:
Set this to "ON" if your speakers do not have a very strong capacity for producing low bass. Using the high pass filter makes it possible to reduce distortion of the bass sound.

Channel Level:
Set so that the playback level is the same for the left and right channels. (The volume can adjusted between –12 dB and +12 dB in steps of 1.0 dB.)

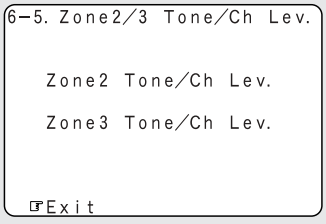
4 **Press the ENTER button.**

• Return to the "Zone2/3 Tone/Ch Lev." screen.

※ Use the same procedure to make the settings for ZONE3.

5 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**

• The "Option Setup" menu reappears.

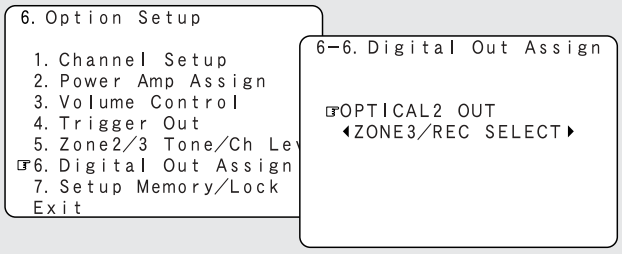


• The "Channel Level" setting is only possible when ZONE2 or ZONE3 is set to "Stereo" in the "Channel Setup" menu.

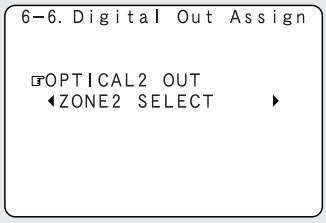
Setting the Digital Out Assignment

- The optical digital output connectors on the AVR-4806's rear panel (OPTICAL2 to 4 OUT) normally function in association with the ZONE3/REC SELECT mode. With this setting, the OPTICAL 2 OUT connector can be used in association with the ZONE2 SELECT mode.

1 **Press the CURSOR △ or ▽ button to select the "Digital Out Assign" at the "Option Setup" menu, then press the ENTER button.**
- Display the "Digital Out Assign" screen.



2 **Press the CURSOR ◁ or ▷ button to select whether to associate the OPTICAL2 OUT connector to the "ZONE3/REC SELECT" or "ZONE2 SELECT" mode.**

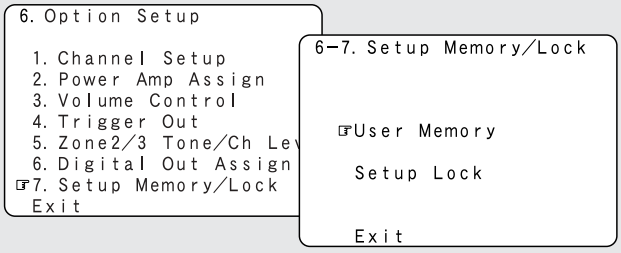


3 **Press the ENTER button to enter the setting.**
- The "Option Setup" menu reappears.

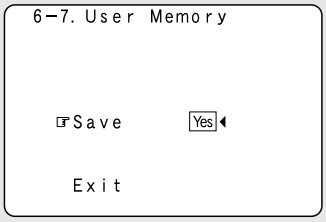
User Memory

- The currently set settings (system setup, surround parameters, etc.) can be stored in the memory. The stored settings can be called out when needed.

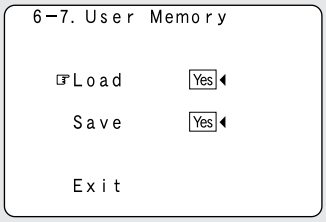
1 **Press the CURSOR △ or ▽ button to select the "Setup Memory / Lock" at the "Option Setup" menu, then press the ENTER button.**
- Display the "Setup Memory / Lock" screen.



2 **Press the CURSOR △ or ▽ button to select the "User Memory", then press the ENTER button.**
- Switch to the "User Memory" screen.



3 **Press the CURSOR ◁ button to select the "Yes".**
- About 30 seconds are required for the settings to be stored in the memory.



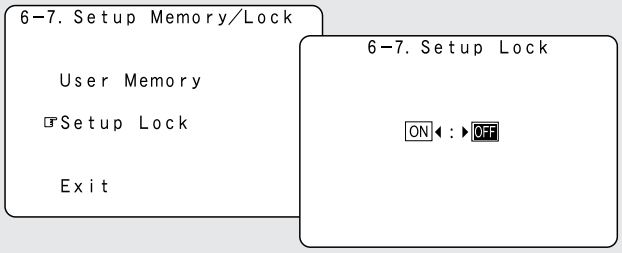
※ Once the settings are stored in the memory, "Load" is displayed and the settings can be loaded.

4 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- Return to the "Setup Memory / Lock" screen.

Setup Lock

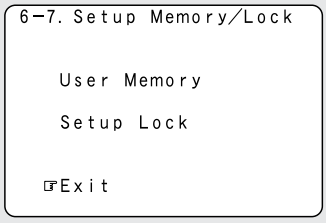
- The system setup settings can be locked so that they cannot be changed easily.

1 **Press the CURSOR △ or ▽ button to select the "Setup Lock" at the "Setup Memory / Lock" screen, then press the ENTER button.**
- Switch to the "Setup Lock" screen.

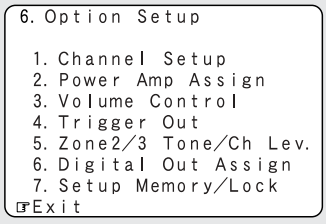


2 **Press the CURSOR ◁ button to select "ON", to lock the system setup settings, then press the ENTER button.**
- Return to the "Setup Memory / Lock" screen.

3 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- The "Option Setup" menu reappears.



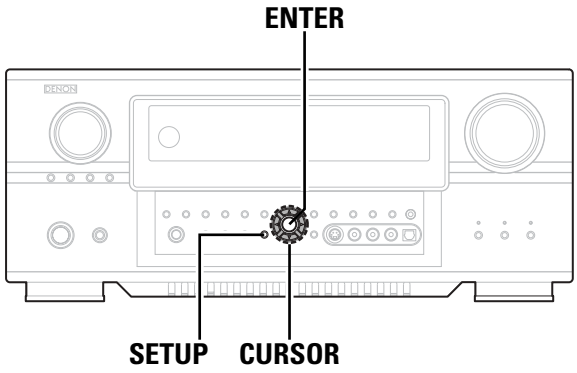
4 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**
- Finalize the setting and exit the "Option Setup" menu.

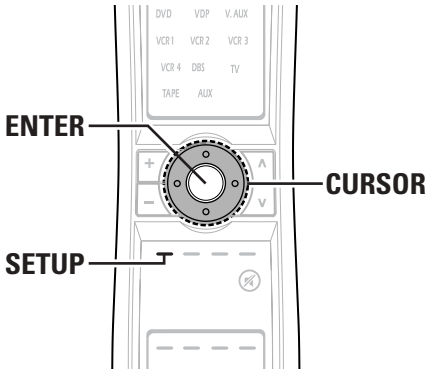


- When the setup lock function is activated, the settings listed below cannot be changed, and "Setup Locked" is displayed when related buttons are operated.
  - System setup settings
  - Surround parameter settings
  - Tone control settings
  - Channel level settings (including test tones)
  - RoomEQ
- To unlock, press the **SETUP** button again and display the "Setup Lock" screen, then select "OFF" and press the **ENTER** button.

Advanced Setup – Part 2

• This Speaker Setup section describes the procedures to make speaker settings manually (without using the Auto Setup function), as well as to make manual changes to settings that have already been made by the Auto Setup function.





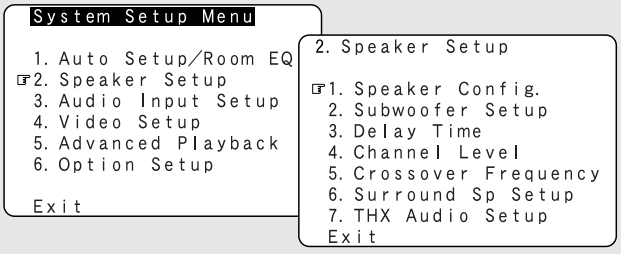
Speaker Setup

• If the "Auto Setup" procedure has already been performed, there is no need to make this setting.
• Perform this setting if you wish to make the settings for your speaker systems manually.

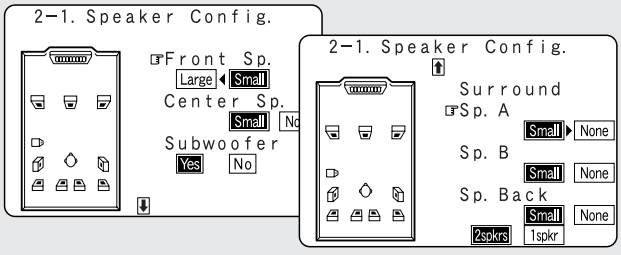
Setting the type of speakers

• The composition of the signals output to each channels and the frequency response are adjusted according to the combination of speakers actually being used.

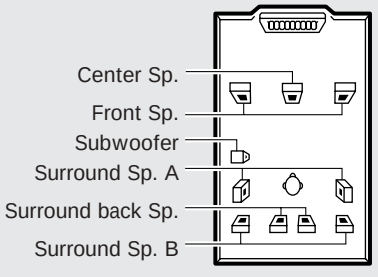
1 **Press the CURSOR △ or ▽ button to select the "Speaker Setup" at the "System Setup Menu", then press the ENTER button.**
• Display the "Speaker Setup" menu screen.



2 **Press the CURSOR △ or ▽ button to select the "Speaker Config.", then press the ENTER button.**
• Display the "Speaker Config." screen.



3 **Press the CURSOR △ or ▽ button to select the speaker, then press the CURSOR ◁ or ▷ button to select the parameter.**



4 **Press the ENTER button to enter the setting.**
• The "Speaker Setup" menu reappears.

- Select “Large” or “Small” not according to the actual size of the speaker but according to the speaker’s capacity for playing low frequency (bass sound below the frequency set for the Crossover Frequency) signals. If you do not know, try comparing the sound at both settings (setting the volume to a level low enough so as not to damage the speakers) to determine the proper setting.

■ Parameters

Large:
Select this when using speakers that can fully reproduce deep bass well below 80 Hz.

Small:
Select this when using speakers that are not capable of handling deep bass well below 80 Hz. Most home theater main and surround speakers perform best when configured as SMALL. Deep bass content in any channel with a SMALL speaker is routed to the subwoofer(s).

None:
Select this when no speakers are installed.

Yes / No:
Select “Yes” when a subwoofer is installed, “No” when a subwoofer is not installed.

2spkrs / 1spkr:
Select the number of speakers to be used for the surround back channel.

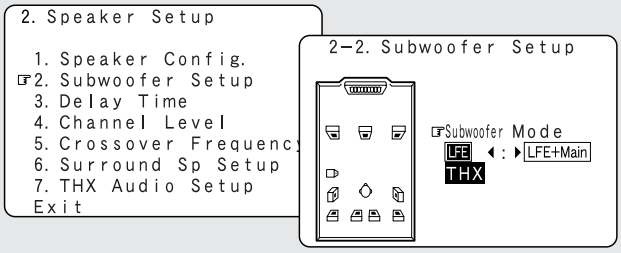
※ A subwoofer with sufficient low frequency playback capability can better handle deep bass than most main and surround speakers, and the system’s overall performance will be greatly enhanced when SMALL is set for the main (front) and surround speakers.
※ To take full advantage of the performance of the Home THX certified speaker systems, set the front, center and surround speaker size parameters to “Small” and the subwoofer to “Yes”.
※ For the majority of speaker system configurations, using the SMALL setting for all main and surround speakers and connected subwoofer(s) set to ON will yield the best results.
※ When “Front” is set to “Small”, “Subwoofer” is automatically set to “Yes”, and when “Subwoofer” is set to “No”, “Front” is automatically set to “Large”.

Setting the low frequency distribution

- Set the subwoofer mode according to the speaker system being used.
- Select the play mode that provides bass reproduction with body.

1 Press the CURSOR △ or ▽ button to select the “Subwoofer Setup” at the “Speaker Setup” menu, then press the ENTER button.

- Display the “Subwoofer Setup” screen.



2 Press the CURSOR ◁ or ▷ button to select the setting.

LFE–THX–:
For any channel(s) that are set to LARGE, low frequencies in that channel’s corresponding source are directed to that loudspeaker only. Low frequencies that are directed to the subwoofer(s) are from the program source LFE channel, and from other channels where the speakers are set to SMALL. THX is recommended in this play mode so that bass interference is less likely to occur in the room.

LFE+Main:
Low frequencies from speaker channels that have been set to LARGE are reproduced from those speakers as well as from the subwoofer(s). Depending upon the characteristics of the LARGE main speakers, this mode may provide a more even low frequency response throughout the listening room.

3 Press the ENTER button to enter the setting.

- The “Speaker Setup” menu reappears.

■ Assignment of low frequency signal range

- The only signals produced from the subwoofer channel are LFE signals (during playback of Dolby Digital or DTS signals) and the low frequency signal range of channels set to "Small" in the setup menu. The low frequency signal range of channels set to "Large" are produced from those channels.

■ Subwoofer Setup

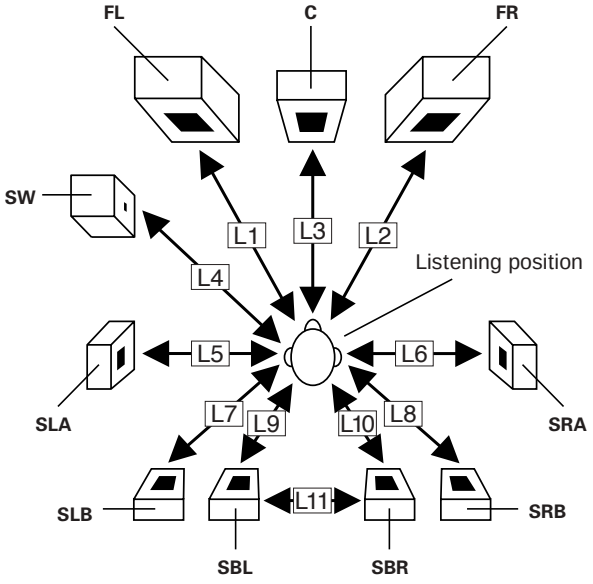
- The subwoofer mode setting is only valid when and "Yes" is set for the subwoofer in the "Speaker Configuration" settings (☞ page 113, 114).
- When the input signal is analog or a PCM signal not including LFE signals, if "LFE–THX–" is selected, the low frequency component is not output from the subwoofer. To output the subwoofer channel, select "LFE+Main".

Setting the Delay Time

- Input the distance between the listening position and the different speakers to set the delay time for the surround mode.
- Two surround back speakers are required to use the THX Ultra2 Cinema, THX Music mode and THX Games mode.
  Set the surround back speakers so that the distance to the listening position is the same for both the left and right speakers.
  It is also recommended that the deviations of the distance from the listening position to L and R channel speakers (front left (FL) and front right (FR), surround left (SL) and surround right (SR), surround back left (SBL) and surround back right (SBR)) is less than 2 ft (60 cm).

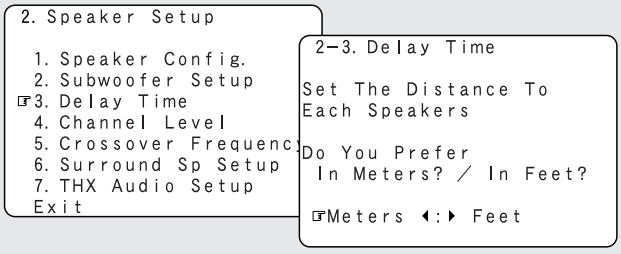
Preparations:

Measure the distances between the listening position and the speakers (L1 to L11 on the diagram at the below).



1 **Press the CURSOR △ or ▽ button to select the "Delay Time" at the "Speaker Setup" menu, then press the ENTER button.**

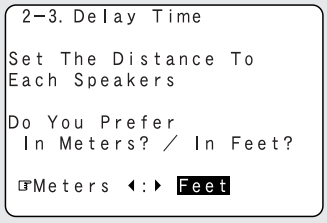
- Display the "Delay Time" screen.

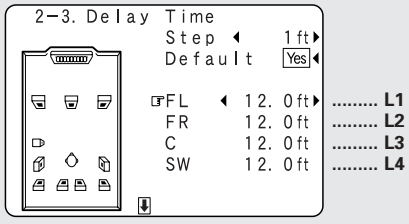


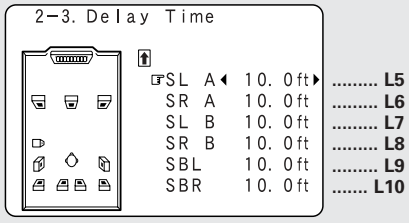
2 **Press the CURSOR ◁ or ▷ button to select the desired unit, "Meters" or "Feet".**

- The "Delay Time" screen appears automatically.

Example: When "Feet" is selected



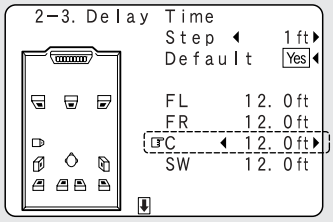




3 **Press the CURSOR △ or ▽ button to select the speaker to be set.**

4 Press the CURSOR ◁ or ▷ button to set the distance between the center speaker and listening position.

Example: When the distance is set to 12 feet for the center speaker

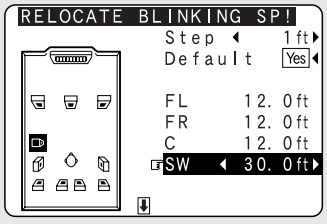


※ The distance changes in units of 0.1 foot (0.03 meters) or 1 foot (0.3 meters) each time the button is pressed. Select the value closest to the measured distance.

※ If "Yes" is selected for "Default", the settings are automatically reset to the default values.

※ When "Step" is selected, you can select the unit of "1 ft (0.1 m)" or "0.1 ft (0.01 m)".

※ **Please note that the difference of distance for every speaker should be 20 ft (6.0 m) or less. If you set an invalid distance, a CAUTION notice, such as screen right will appear. In this case, please relocate the blinking speaker(s) so that its distance is no larger than the value shown in highlighted line.**



5 Press the ENTER button to enter the setting.

• The "Speaker Setup" menu reappears.

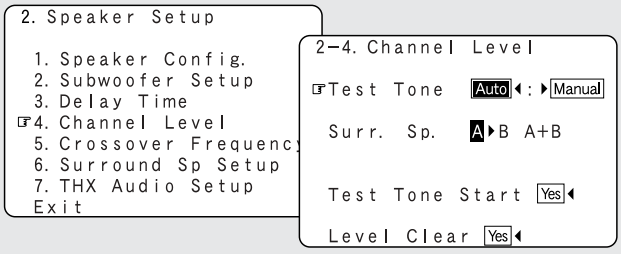
※ The AVR-4806 automatically sets the optimum surround delay time for the listening room.

Setting the Channel Level

- Use this setting to adjust so that the playback level between the different channels is equal.
- From the listening position, listen to the test tones produced from the speakers to adjust the level.
- The level of each channel should be adjusted to 75 dB (C-weighted, slow meter mode) on a sound level meter at the listening position.
  If a sound level meter is not available adjust the channels by ear so the sound levels are the same. Because adjusting the subwoofer level test tone by ear is difficult, use a well known music selection and adjust for natural balance.

1 Press the CURSOR △ or ▽ button to select the "Channel Level" at the "Speaker Setup" menu, then press the ENTER button.

• Display the "Channel Level" screen.

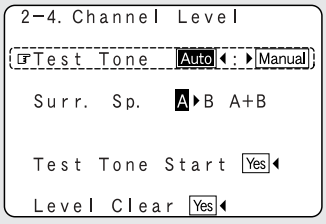


2 Press the CURSOR ◁ or ▷ button to select the "Auto" or "Manual".

Auto:
Adjust the level while listening to the test tones produced automatically from each speaker.
Test tones are automatically emitted from each speaker.

Manual:
Select the speaker from which you want to produce the test tone to adjust the level.

Example: When the "Auto" mode is selected



3 **Press the CURSOR △ or ▽ button to select the "Surr. Sp.", then press the CURSOR ◁ or ▷ button to select the surround speaker(s) from which you want to produce the test tone (A, B or A+B).**

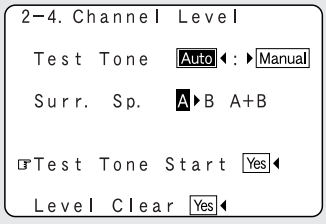
Surr. Sp. : A
Adjusts the balance of the playback level between the channels when using surround speaker A.

Surr. Sp. : B
Adjusts the balance of the playback level between the channels when using surround speaker B.

Surr. Sp. : A + B
Adjusts the balance of the playback level between the channels when using surround speakers A and B at the same time.

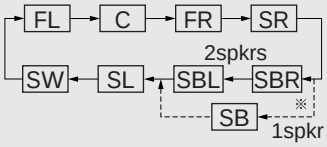
※ The "Surr. Sp." can only be selected when both surround speakers A and B have been selected at the System Setup Menu (when both A and B have been set to "Large" or "Small").

4 **Press the CURSOR △ or ▽ button to select the "Test Tone Start", then press the CURSOR ◁ button to select the "Yes".**



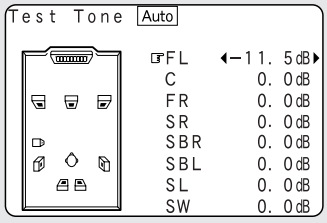
5-1 **When "Auto" mode is selected:**
Press the CURSOR ◁ or ▷ button to adjust all the speakers to the same volume.

- The test tones are emitted from each speaker in the following order, at 4-second intervals the first time and second time around, 2-second intervals the third time around and on:



※ When the surround back speaker setting is set to "1spkr" for "Speaker Configuration", this is set to "SB".

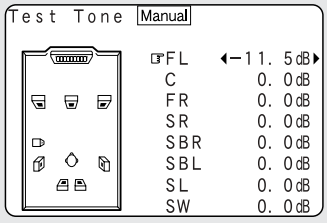
Example: When the volume is set to –11.5 dB while the test tone is being produced from the Front Lch speaker



※ The volume can be adjusted between –12 dB and +12 dB in units of 0.5 dB.

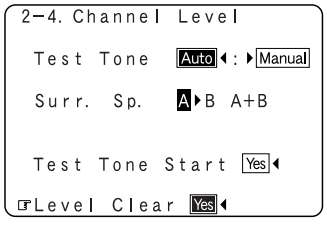
5-2 **When "Manual" mode is selected:**
Press the CURSOR △ or ▽ button to select the speaker, then press the CURSOR ◁ or ▷ button to adjust all the speakers to the same volume.

Example: "Manual" mode is selected.



6 **Press the ENTER button to enter the setting.**
- The "Channel Level" screen reappears.

- To cancel the settings, press the **CURSOR** ▽ button to select the "Level Clear" and "Yes" on the "Channel Level" screen, then make the settings again.



- When adjusting the level of an active subwoofer system, you may also need to adjust the subwoofer's own volume control.
- When you adjust the channel levels while in the SYSTEM SETUP CHANNEL LEVEL mode, the channel level adjustments made will affect all surround modes. Consider this mode a Master Channel Level adjustment mode.
- After you have completed the SYSTEM SETUP CHANNEL LEVEL adjustments, you can then activate the individual surround modes and adjust channel levels that will be remembered for each of those modes. Then, whenever you activate a particular surround sound mode, your preferred channel level adjustments for just that mode will be recalled. Check the instructions for adjusting channel levels within each surround mode (☞ page 64, 65).
- You can adjust the channel levels for each of the following surround modes: PURE DIRECT/DIRECT, STEREO, DOLBY/DTS SURROUND, HOME THX CINEMA, 7CH STEREO, WIDE SCREEN, SUPER STADIUM, ROCK ARENA, JAZZ CLUB, CLASSIC CONCERT, MONO MOVIE, VIDEO GAME and MATRIX.
- When using either surround speakers A or B, or when using surround speakers A and B at the same time, be sure to adjust the balance of playback levels between each channel for the various selections of "A", "B" and "A + B".

■ Adjusting the test tone using the remote control unit

- As described below, this adjustment can be accomplished via the with remote control unit.
- Adjusting with the remote control unit using the test tones is only possible in the "Auto" mode and only effective in the STANDARD (DOLBY/DTS SURROUND) and HOME THX CINEMA modes. The adjusted levels for the different modes are automatically stored in the memory.

1 **Press the TEST TONE button.**
- Test tones are output from the different speakers.

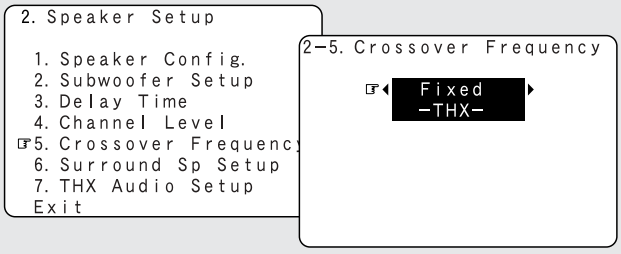
2 **Press the CURSOR ◁ or ▷ button to adjust the channel level so that the volume of the test tones is the same for all the speakers.**

3 **After completing the adjustment, press the TEST TONE button again.**

Setting the Crossover Frequency

- Set the crossover frequency according to the low frequency response characteristics of the various (front, center, surround and surround back) speaker systems.
- If a connected main or surround loudspeaker has a specified –3 dB low frequency response rolloff, adjust the crossover frequency for that speaker to match the specified low frequency response limit – e.g. 80 Hz.
- When a speaker is set to SMALL, low frequencies in that channel that are below the crossover frequency are directed to the system's subwoofer(s), or to speakers that are set to LARGE, for systems with no connected subwoofer(s).

1 **Press the CURSOR △ or ▽ button to select the "Crossover Frequency" at the "Speaker Setup" menu, then press the ENTER button.**
- Display the "Crossover Frequency" screen.



2 **Press the CURSOR ◁ or ▷ button to select the frequency.**

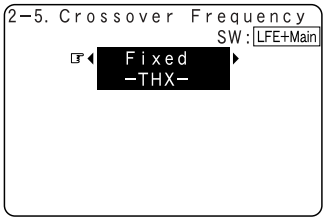
FIXED–THX–:
Set to the THX rated 80 Hz crossover frequency.

VARIABLE 40, 60, 80, 90, 100, 110, 120, 150, 200, 250 Hz:
Set as desired according to your speakers' bass playback ability.

Advanced
The crossover frequency can be set individually for the different speakers (☞ page 119).

3 **Press the ENTER button to enter the setting.**
- The "Speaker Setup" menu reappears.

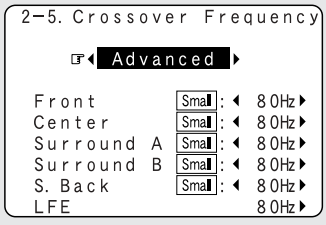
- If “LFE+Main” is set at “Subwoofer Setup”, “SW:LFE+Main” (☞ page 114, 115) is displayed at the top right of the screen.



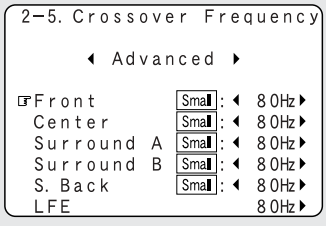
- Please set all THX Certifies speakers to small and the crossover to 80Hz.
- We recommend using with the crossover frequency set to “FIXED–THX–”, but depending on the speaker, setting it to a different frequency may improve frequency response near the crossover frequency.
- The crossover frequency mode is valid only when subwoofer is set to ON, and when one or more speakers are set to SMALL, as described in section “Speaker Configuration” settings (☞ page 113, 114).

Setting the crossover frequency individually for the different channels

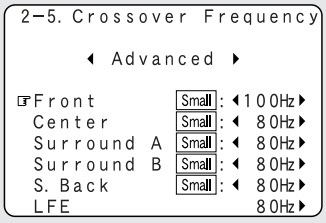
1 **Press the CURSOR ◁ or ▷ button to select the “Advanced” at the “Crossover Frequency” screen.**



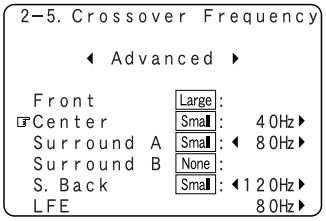
2 **Press the CURSOR △ or ▽ button to select the speaker to be set.**



3 **Press the CURSOR ◁ or ▷ button to select the frequency.**



- If “LFE–THX–” is selected at “Subwoofer Setup”, the frequencies can only be selected for speakers set to “Small” at “Speaker Configuration”.

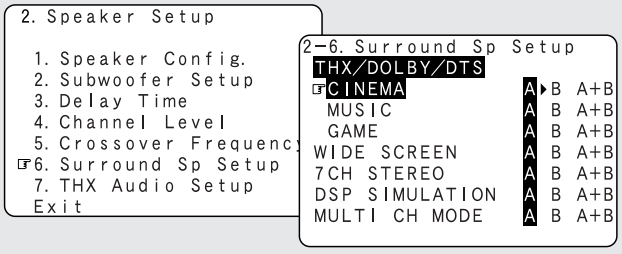


- If “LFE+Main” is set at “Subwoofer Setup”, the frequencies can be selected regardless of the speaker size setting.

Selecting the Surround Speakers for the different surround modes

- This menu is displayed when both surround speakers A and B are used.
- At this screen preset the surround speakers to be used in each surround modes.

1 **Press the CURSOR △ or ▽ button to select the “Surround Sp Setup” at the “Speaker Setup” menu, then press the ENTER button.**
- Display the “Surround Sp Setup” screen.



2 **Press the CURSOR △ or ▽ button to select the surround mode, then press the CURSOR ◁ or ▷ button to select the surround speaker.**

A:
When surround speakers A is used.

B:
When surround speakers B is used.

A + B:
When both surround speakers A and B are used.

3 **Press the ENTER button to enter the setting.**
• The "Speaker Setup" menu reappears.

• For the "WIDE SCREEN" and "7CH STEREO" DSP simulation modes, the surround speakers can be set separately.

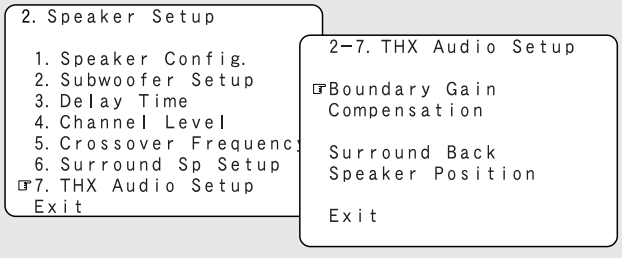
■ About Speaker type setting when using both surround speakers A and B

• If "Small" is set for either surround speakers A or B, the output is the same as when "Small" is set for both A and B.

Settings for using a THX Ultra2 compatible subwoofer

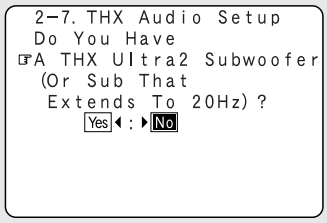
• Make these settings when "Yes" is selected for the subwoofer in the "Speaker Configuration" settings. There is not displayed when "No" selected (☞ page 113, 114).

1 **Press the CURSOR △ or ▽ button to select the "THX Audio Setup" at the "Speaker Setup" menu, then press the ENTER button.**
• Display the "THX Audio Setup" screen.



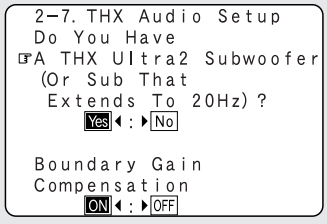
2 **Press the CURSOR △ or ▽ button to select the "Boundary Gain Compensation", then press the ENTER button.**

3 **Press the CURSOR ◁ or ▷ button, when using a THX Ultra2 compatible subwoofer or subwoofer that frequency response extends to 20 Hz, select "Yes". Otherwise select "No".**



※ **When "Yes" is selected:**
"Boundary Gain Compensation" can be selected and the compensation set to "OFF".

※ **If the bass sound seems too strong:**
Set "Boundary Gain Compensation" to "ON". This activates a filter that gently reduces very deep bass below 55 Hz to provide the flattest overall deep bass response. Select "ON" or "OFF" according to how strong you prefer the deep bass response to be.

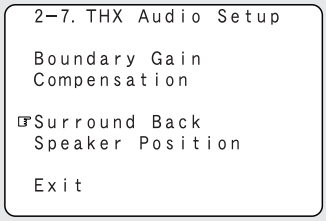


4 **Press the ENTER button.**
• Return to the "THX Audio Setup" screen.

Surround Back Speaker Position Settings

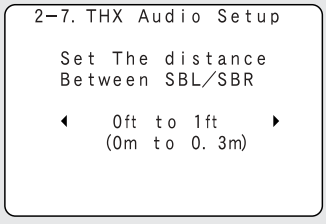
- When two surround back speakers have been set in "Speaker Configuration" (☞ page 113, 114), set the distance of the speakers. There is not displayed when "1spkr" selected.
- This setting is necessary to achieve the optimum effect in the THX Surround EX, THX Ultra2 Cinema, THX Music mode and THX Games mode. It is recommended that SBL/SBR speakers are placed together as close as possible.

1 **Press the CURSOR △ or ▽ button to select the "Surround Back Speaker Position" at the "THX Audio Setup" screen, then press the ENTER button.**



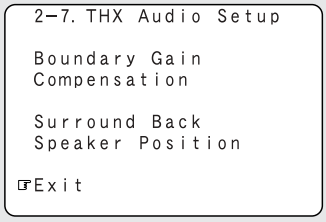
2 **Press the CURSOR ◁ or ▷ button to select the settings according to the distances of the two surround back speakers (☞ page 112 : L11), then press the ENTER button.**

- Return to the "THX Audio Setup" screen.



3 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**

- Return to the "Speaker Setup" menu screen.



4 **Press the CURSOR △ or ▽ button to select the "Exit", then press the ENTER button.**

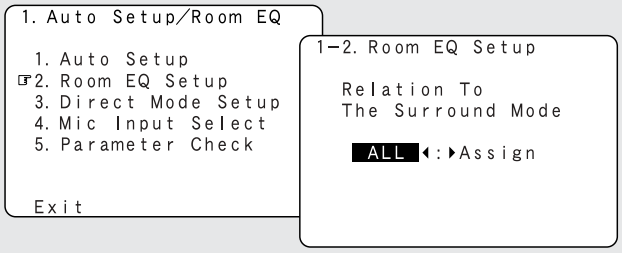
- The "System Setup Menu" reappears.

Others Setup

Setting the Room EQ Setup

- Select the setting of an Equalizer that has been set with Auto Setup or Manual EQ.

1 **Press the CURSOR △ or ▽ button to select the "Room EQ Setup" at the "Auto Setup / Room EQ" menu, then press the ENTER button.**
- Display the "Room EQ Setup" screen.

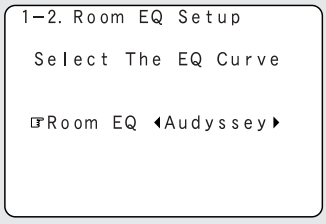


2 **Press the CURSOR ◁ or ▷ button to select the "All" or "Assign".**

All:
Sets the Equalizer for all surround modes.

Assign:
Sets the Equalizer individually for each surround mode.

3-1 **When "All" is selected:**
① Press the ENTER button.
- Display the "Select the EQ Curve" screen.



② Press the CURSOR ◁ or ▷ button to select the equalizer setting.

OFF:
The Equalizer is not used.

Audyssey:
Adjusts the frequency response of all speakers to correct the effects of room acoustics.

Front:
Adjusts the frequency response of the surround speakers to match the characteristics of the front channel speakers.

Flat:
Adjusts the frequency response of all speakers to the flattest response. This mode is suitable for multi-channel music surround sound sources.

Manual:
Selects the setting value that was set in the Manual EQ Setup.
For details of the "Manual EQ Setup" (☞ page 103, 104).

3-2 **When "Assign" is selected:**
After completing system setup, select the desired equalizer setting pressing the ROOM EQ button.
- Equalizer settings for the individual surround modes can be stored in the memory.

※ Whenever the **ROOM EQ** button is pressed, the display switches as shown below.

OFF → Audyssey → Front → Flat → Manual → OFF

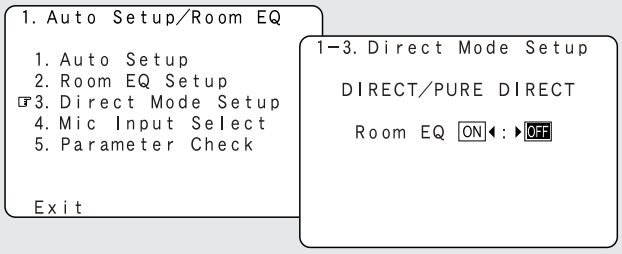
4 **Press the ENTER button to enter the setting.**
- The "Auto Setup / Room EQ" menu reappears.

- The Equalizer setting of "Audyssey", "Front" and "Flat" can be selected after performing the Auto Setup.
- When the speaker set as "None" with the Auto Setup is changed to on manually, the equalizer of "Audyssey", "Front" and "Flat" cannot be used.
- The Equalizer setting can be selected directly by **ROOM EQ** button.
- When headphones are connected, the Room EQ cannot be used.

Setting the Direct Mode Setup

- Perform the ON/OFF setting of Room EQ when the surround mode is "DIRECT" or "PURE DIRECT".

1 **Press the CURSOR △ or ▽ button to select the "Direct Mode Setup" at the "Auto Setup / Room EQ" menu, then press the ENTER button.**
- Display the "Direct Mode Setup" screen.



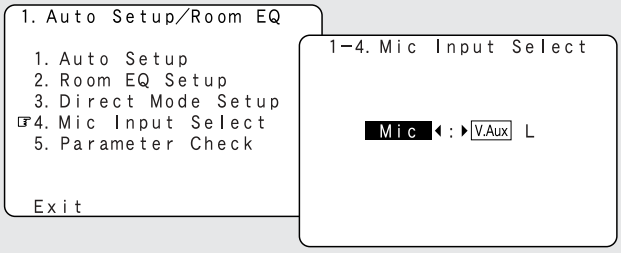
2 **Press the CURSOR ◁ or ▷ button to select the "ON" or "OFF".**

3 **Press the ENTER button to enter the setting.**
- The "Auto Setup / Room EQ" menu reappears.

Setting the MIC Input Select

- Sets whether the setup microphone is connected to the PIN JACK (V.AUX L channel) connector or the MINI JACK (SETUP MIC) connector.

1 **Press the CURSOR △ or ▽ button to select the "Mic Input Select" at the "Auto Setup / Room EQ" menu, then press the ENTER button.**
- Display the "Mic Input Select" screen.



2 **Press the CURSOR ◁ or ▷ button to select the "Mic" or "V.AUX L".**

3 **Press the ENTER button to enter the setting.**
- The "Auto Setup / Room EQ" menu reappears.

Specifications and Setup Procedure for Non-DENON Microphone

Required Microphone for DENON Auto-Setup Room EQ : Product name Countryman B3

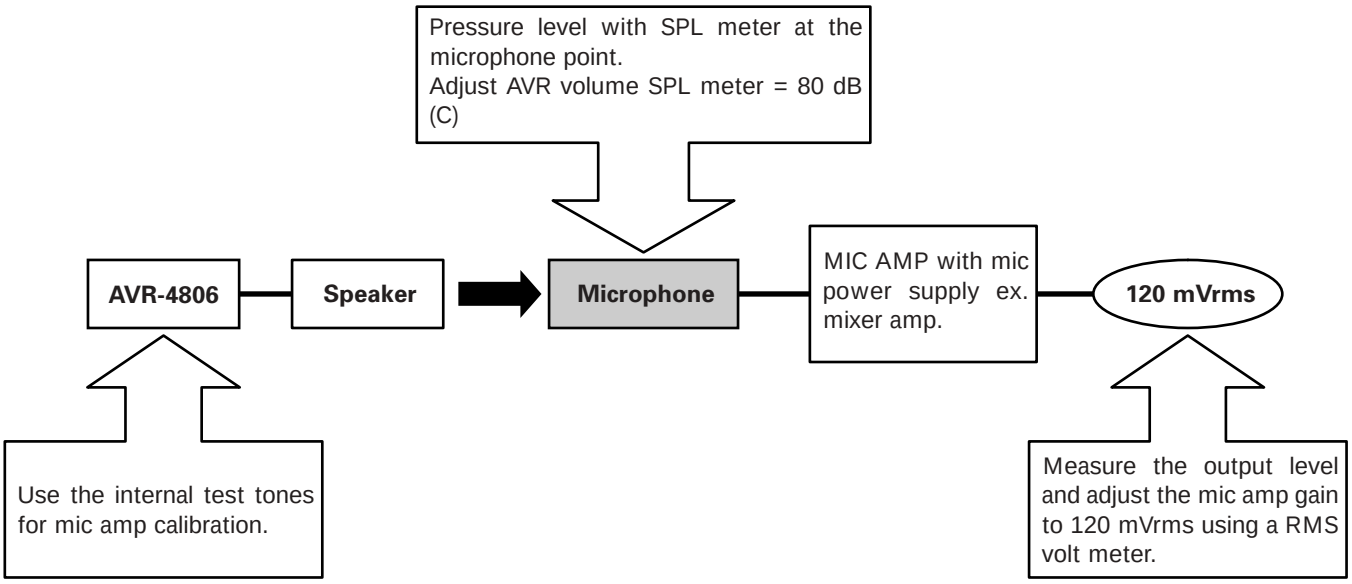
Required Microphone Amplifier Specification for DENON Auto-Setup Room EQ
- Gain : 29 dB
- Frequency Response : 10 ~ 30 kHz Full Flat (Ex : Rane MS1b)

Microphone Placement
- Set the microphone using microphone stand, or other method, at the prime listening position.
- Point the top of the microphone toward the ceiling.
- Adjust the height so that the top of microphone to matches the height of your ear when sitting.

Microphone Amplifier Gain Setting using Sound Level Meter and RMS Volt Meter

First you will need to adjust the " microphone amplifier gain".

(1) Connect the all speakers and the video monitor (for the on screen display) with the AVR-4806.
(2) Connect the microphone with the microphone amplifier.
(3) Turn on the AVR-4806 and the "microphone amplifier".
(4) Turn on the "Phantom Supply" on the microphone amplifier.

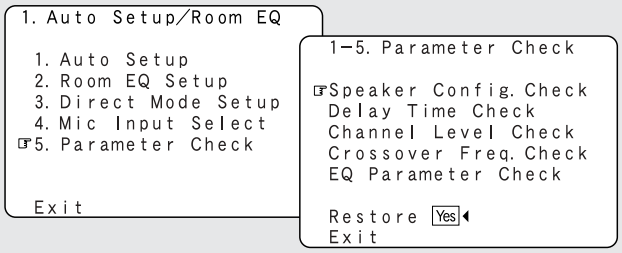

Pressure level with SPL meter at the microphone point.
Adjust AVR volume SPL meter = 80 dB (C)
AVR-4806
Speaker
Microphone
MIC AMP with mic power supply ex. mixer amp.
120 mVrms
Use the internal test tones for mic amp calibration.
Measure the output level and adjust the mic amp gain to 120 mVrms using a RMS volt meter.

(5) Set the Parameter "Test Tone" to "Manual" and "Test Tone Start" to "Yes" at "Channel Level" (☞ page 116 ~ 118).
(6) Once the test tone for Front Left (FL) speaker starts, check the Sound Pressure Level at the Listening Position with an SPL Meter. You do not have to check any of the other channels.
(7) Adjust the "Main Volume" so that the Sound Pressure Level measures 80 dB (C-weighted).
(8) Once the "Main Volume" as been set, connect the output of microphone amplifier to the RMS Volt Meter.
(9) Adjust the "microphone amplifier's gain" as the RMS Volt Meter becomes about 120 [mV RMS].
(10) Once set, exit out of "System Setup" and turn off the AVR-4806.
(11) Connect the output of the microphone amplifier to the AVR-4806's front panel "V.AUX" Left channel audio input–located behind Trap Door.
(12) Change the setting to "V.AUX L" at "Mic Input Select" (☞ page 123).
(13) Start "Auto Setup" (☞ page 19 ~ 25).

Check the parameter

- The results of the measured items can be checked.
- The EQ parameters that were set in Auto Setup can be checked.
- This item is displayed, after the measurement result of the "Auto Setup / Room EQ" is decided.

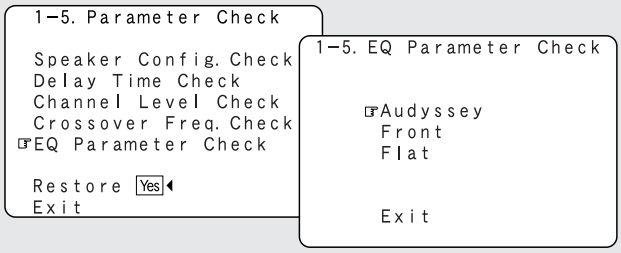
1 **Press the CURSOR △ or ▽ button to select the "Parameter Check" at the "Auto Setup / Room EQ" menu, then press the ENTER button.**
- Display the "Parameter Check" screen.



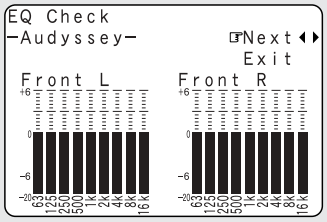
2 **Press the CURSOR △ or ▽ button to select the items, then press the ENTER button.**
- Display the verification screen.

※ For instructions on checking the results of each item (☞ page 24).

3 **Press the CURSOR △ or ▽ button to select the "EQ Parameter Check", then press the ENTER button.**
- Display the "EQ Parameter Check" screen.



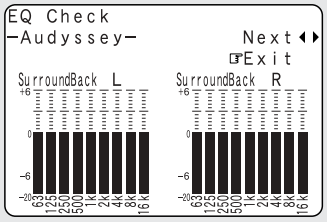
4 **Press the CURSOR △ or ▽ button to select the Equalizer curve, then press the ENTER button.**
• Display the “EQ Check” screen.



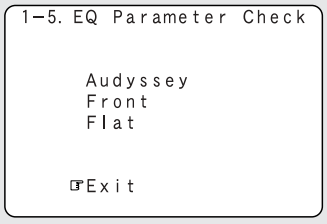
※ The display is only an approximate picture of the response and that correction is happening at all frequencies.

5 **Press the CURSOR ◁ or ▷ button to select the speaker channel.**

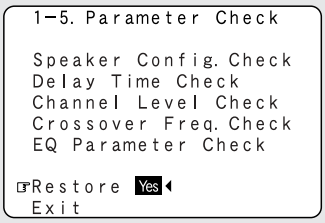
6 **If the check ends, pressing the CURSOR △ or ▽ button to select the “Exit”, then press the ENTER button.**
• The “EQ Parameter Check” screen reappears.



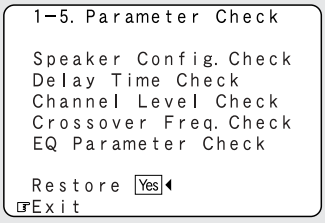
7 **Press the CURSOR △ or ▽ button to select the “Exit”, then press the ENTER button.**
• The “Parameter Check” screen reappears.



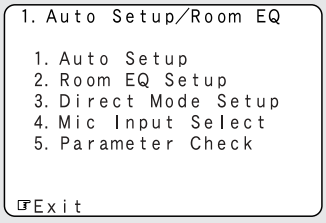
8 **The results of the “Auto Setup” procedure can be reset even if the settings have been changed after performing the “Auto Setup” procedure: Press the CURSOR △ or ▽ button to select the “Restore Yes ◀”, then press the CURSOR ◁ button.**



9 **Press the CURSOR △ or ▽ button to select the “Exit”, then press the ENTER button.**
• The “Auto Setup / Room EQ” menu reappears.



10 **Press the CURSOR △ or ▽ button to select the “Exit”, then press the ENTER button.**
• The “System Setup Menu” reappears.



System setup items and default values (set upon shipment from the factory)

1. Auto Setup/Room EQ

Auto Setup / Room EQ			Default settings	Page
1	**Auto Setup**	This unit performs an analysis of the speaker system and measures the acoustic characteristics of your room to permit an appropriate automatic setting.	–	19~25
2	**Room EQ Setup**	Set the Room EQ setting with All or Assign for each surround mode.	All, Room EQ = OFF	122
3	**Direct Mode Setup**	Set the ON/OFF setting of Room EQ, in the case of the surround mode is in “Direct” or “Pure Direct”.	OFF	123
4	**Mic Input Select**	Set this to switch the Mic Input jack for use for Mic or V.AUX L-channel input terminal.	Mic	123, 124

2. Speaker Setup

Speaker Setup				Default settings					Page
1	**Speaker Configuration**	Input the combination of speakers in your system and their corresponding sizes (SMALL for regular speakers, LARGE for full-size, full-range) to automatically set the composition of the signals output from the speakers and the frequency response.		Front Sp.	Center Sp.	Subwoofer	Surround Sp. A / B	Surround Back Sp.	113, 114
				Small	Small	Yes	Small	Small / 2spkrs	
2	**Subwoofer Setup**	This selects the subwoofer for playing deep bass signals.		LFE —THX—					114, 115
3	**Delay Time**	This parameter is for optimizing the timing with which the audio signals are produced from the speakers and subwoofer according to the listening position.		Front L & R	Center	Subwoofer	Surround L & R (A)	Surround L & R (B)	Surround Back	115, 116
				12 ft (3.6 m)	12 ft (3.6 m)	12 ft (3.6 m)	10 ft (3.0 m)	10 ft (3.0 m)	10 ft (3.0 m)	
4	**Channel Level**	This adjusts the volume of the signals output from the speakers and subwoofer for the different channels in order to obtain optimum effects.		Front L	Front R	Center	Surround L	Surround R	Surround Back L	Surround Back R	Subwoofer	116~118
				0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	
5	**Crossover Frequency**	Set the frequency (Hz) below which the bass sound of the various speakers is to be output from the subwoofer.		FIXED —THX—								118, 119
6	**Surround Speaker Setup**	Use this function when using multiple surround speaker combinations for more ideal surround sound. Once the combinations of surround speakers to be used for the different surround modes are preset, the surround speakers are selected automatically according to the surround mode.	**Surround mode**	THX/DOLBY/ DTS CINEMA	THX/DOLBY/ DTS MUSIC	THX/ DOLBY GAME	WIDE SCREEN	7 CH STEREO	DSP SIMULATION	MULTI CH MODE		119, 120
			Surround speaker	A	A	A	A	A	A	A		
7	**THX Audio Setup**	**Boundary Gain compensation**	When using a THX Ultra2 compatible subwoofer, set the subwoofer's frequency response.	THX Ultra2 Subwoofer = NO								120
		Surround Back Speaker Position	When using two surround back speakers, set the distance of the two speakers.	The Distance Between SBL/SBR = 0 ft to 1 ft (0 m to 0.3 m)								121

3. Audio Input Setup

	Audio Input Setup			Default settings										Page
1	**Digital In Assign**	This assigns the digital input terminals for the different input sources.	**Input source**	CD	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	CDR / TAPE	V.AUX	89, 90
			Digital Inputs	COAX 1	COAX 2	COAX 3	OPT 1	OFF	OPT 2	OPT 3	OFF	OPT 4	OPT 5	
2	**EXT.IN Setup**	Set the Ext.In terminal playback method.		Surr.Sp = Surr.A, SW Level = +15dB										90
3	**Input Function Lev.**	The playback level is corrected individually for the different input sources.		TUNER	PHONO	CD	CDR / TAPE	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	91
				0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	
4	**Function Rename**	The names of the different input source can be changed as desired and displayed on the display.		TUNER	PHONO	CD	CDR / TAPE	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	91, 92
5	**IEEE1394 Assign**	The connected IEEE1394 device can be automatically identified to assign the input source.		–										92
6	**IEEE1394 Auto Func.**	Set the function for associating playback of the connected IEEE1394 device on or off.		Auto Function = OFF										93
7	**Tuner Presets**	**Auto Preset Memory**	FM stations are received automatically and stored in the memory.	A1 ~ A8	87.5/89.1/98.1/107.9/90.1/90.1/90.1/90.1 MHz									93
				B1 ~ B8	520/600/1000/1400/1500/1710 kHz, 90.1/90.1 MHz									
				C1 ~ C8	90.1 MHz									
				D1 ~ D8	90.1 MHz									
				E1 ~ E8	90.1 MHz									
				F1 ~ F8	90.1 MHz									
				G1 ~ G8	90.1 MHz									
		Preset Skip	Preset channels that are not used often can be skipped.	All preset channels = OFF										94
		Preset Name	The preset channels can be given the names you want.	–										94, 95

4. Video Setup

	Video Setup		Default settings								Page
1	**HDMI/DVI In Assign**	The HDMI or DVI input terminals are assigned for the different input sources. Select the HDMI audio signal playback method.	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	96, 97
			NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
2	**Component In Assign**	This assigns the component video input terminals for the different input sources.	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	97
			1-RCA	2-RCA	3-RCA	NONE	NONE	NONE	NONE	NONE	
3	**Video Convert Mode**	Set the input signal to be output from the monitor output terminal.	AUTO								97, 98
4	**HDMI Out Assign**	This sets whether or not to use the function for converting analog video (composite video, S-Video or component video) signals into HDMI signals. When using this conversion function, set the color format and video range of the signals output from the HDMI terminal.	Convert = ON, Color Space = Y Cb Cr, RGB Mode = Normal								98, 99
5	**Audio Delay**	Set the audio delay timing to synchronize the sound and video.	0 ms								99
6	**On Screen Display**	This sets whether or not to display the on-screen display that appears on the monitor screen when the controls on the remote control unit or main unit are operated.	Function/Mode = ON, Master Volume = ON, Mode = Mode 1								100

5. Advanced Playback

	Advanced Playback		Default settings	Page
1	**2ch Direct/Stereo**	The speaker settings can be changed specifically for playing in the 2-channel direct or stereo mode.	Basic	101
2	**Dolby Digital Setup**	Turn the audio compression on or off when down-mixing Dolby Digital signals.	OFF	102
3	**Auto Surround Mode**	Set the Auto surround mode function.	Auto Surround Mode = ON	102
4	**Manual EQ Setup**	This parameter is for optimizing the Room EQ with which the audio signals are produced from the speakers.	All Channels and Frequency = 0 dB	103, 104

Advanced Setup – Part 2

6. Option Setup

Option Setup				Default settings												Page
1	**Channel Setup**	The number of channels that you wish to play back in each zone are assigned to each zone accordingly.		Main Zone			Zone2			Zone3						105
				Surr.B = Used, S.Back = 2sp			Stereo			Stereo						
2	**Power Amp Assign**	To suit your preference, a power amp other than the front can be assigned to a playback channel, and the front channel bi-amp playback, or the ZONE2 or ZONE3 playback channel can be output from the AVR-4806 speakers.		Front	Center	Surr. A	Surr. B	S. Back								106, 107
				Front	Center	Surr. A	Surr. B	S. Back								
3	**Volume Control**	This sets the volume level of each zone output. **Volume Limit:** This sets the upper limit for the master volume. **Power On Level:** This sets the volume level upon switching on the power of each zone. **Mute Level:** This sets the amount of attenuation of the audio output when each zone is muted. **Volume Level:** This sets whether the output level of ZONE2 to 3 is fixed or variable.	**Main**	Vol.Limit = OFF, P. On Lev. = LAST, Mute Lev. = FULL												108
			Zone2	Vol.Lev. = VAR, Vol.Limit = OFF, P. On Lev. = LAST, Mute Lev. = FULL												
			Zone3	Vol.Lev. = VAR, Vol.Limit = OFF, P. On Lev. = LAST, Mute Lev. = FULL												
4	**Trigger Out Setup**	This sets the Trigger Out output for the different input sources. If "ZONE = MAIN" is selected, settings can be made for the individual surround modes.	**Trigger Out 1**	ZONE = MAIN, All Surround Modes = ON												109
				TUNER	PHONO	CD	CDR / TAPE	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	
				OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	
			Trigger Out 2	ZONE = 2												
				TUNER	PHONO	CD	CDR / TAPE	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	
				ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
			Trigger Out 3	ZONE = 3												
				TUNER	PHONO	CD	CDR / TAPE	DVD	VDP	TV	DBS	VCR-1	VCR-2	VCR-3	V.AUX	
				ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
5	**Zone2/3 Tone/Ch Lev.**	Adjust the tone and channel level of the sound output from ZONE2 and ZONE3.	**Zone2**	Bass = 0 dB, Treble = 0 dB, HPF = OFF, L/R = 0 dB												110
			Zone3	Bass = 0 dB, Treble = 0 dB, HPF = OFF, L/R = 0 dB												
6	**Digital Out Assign**	This sets the OPTICAL2 output for digital audio recording "ZONE3/REC SELECT", or "ZONE2 SELECT".		ZONE3/REC SELECT												111
7	**Setup Memory/Lock**	**User Memory**	This stores the current user settings in the memory.	–												111
		Setup Lock	This sets whether or not to lock the system setup settings so that they cannot be changed.	Setup Lock = OFF												112

Troubleshooting

If a problem should arise, first check the following.
1. Are the connections correct?
2. Have you operated the receiver according to the Operating Instructions?
3. Are the speakers, and other connected components operating properly?
If this unit is not operating properly, check the items listed in the table below. Should the problem persist, there may be a malfunction. Disconnect the power immediately and contact your store of purchase.

Symptom	Cause	Measures	Page
Display not lit and sound not produced when power switch set to on.	• Power supply cord not plugged in securely.	• Check the insertion of the power supply cord plug.	41
Display lit but sound not produced.	• Speaker cables not securely connected. • FUNCTION knob position is not appropriate. • Volume control set to minimum. • MUTING is on. • No digital signal is being input.	• Connect securely. • Switch to the proper position. • Turn volume up to suitable level. • Switch off MUTING. • Properly select a digital signal input source.	15, 16 43 43 44 89, 90
Nothing is displayed on monitor.	• AVR-4806's video output terminals and monitor's input terminals are not properly connected. • Monitor TV's input setting is wrong. • The PURE DIRECT mode is set.	• Check that the connections are correct. • Set the TV's input selector to the terminals to which video signals are connected. • Set a surround mode other than the PURE DIRECT mode.	17, 18, 26 ~ 41 — 49
No DTS sound is produced.	• DVD player's audio output setting is not set to bit stream. • DVD player is not DTS-compatible. • AVR-4806's input setting is set to analog.	• Make the DVD player's initial settings. • Use a DTS-compatible player. • Set to AUTO or DTS.	— — 45
Ultra2 Cinema / THX Music Mode / THX Games Mode cannnot be set.	• Surround back speaker set to 1.	• Connect two surround back speakers.	16, 113, 114, 121
Copying from DVD to VCR is not possible.	• Copying between a source such as DVD and a VCR is not usually possible, as DVDs are often encoded with copy-protection signals that prevent VCR recording.	• Copying is not possible.	—
No sound is produced from subwoofer.	• Subwoofer's power is not on. • Subwoofer's initial setting is set to "NO". • Subwoofer's output is not connected. • The subwoofer's channel volume level is set to "OFF".	• Turn on the power. • Set the setting to "YES". • Connect properly. • Turn the subwoofer's channel volume level up.	— 113, 114 16, 41 64
No test tones are produced.	• Surround mode is set to a mode other than Dolby Surround.	• Set to Dolby Surround.	—
No sound is produced from surround speakers.	• Surround mode is set to "STEREO".	• Set to a mode other than "STEREO".	—
This unit does not operate properly when remote control unit is used.	• Batteries dead. • Remote control unit too far from this unit. • Obstacle between this unit and remote control unit. • Different button is being pressed. • ⊕ and ⊖ ends of battery inserted in reverse.	• Replace with new batteries. • Move closer. • Remove obstacle. • Press the proper button. • Insert batteries properly.	8 9 9 — 8

Troubleshooting

Symptom	Cause	Measures	Page
An image is not projected with an HDMI/DVI-D connection.	• AVR-4806's HDMI output terminals and monitor's input terminals are not properly connected.	• Check the HDMI connection.	35, 36
	• No HDMI/DVI-D signal is being input.	• Properly select HDMI or DVI-D signal input source.	96, 97
	• The connected monitor equipment or other equipments do not support HDCP.	• The AVR-4806 will not output video signal unless the other equipment supports HDCP.	35, 36
	• The output format of the connected player (HDMI/DVI-D FORMAT) does not matche the supported input format of connected monitor equipments.	• Check whether the output format of the connected player (HDMI/DVI-D FORMAT) matches the supported input format of connected monitor equipments.	35, 36
The HDMI audio is not output.	• The AVR-4806 does not play HDMI audio signals.	• Set the HDMI audio playback setting at the "HDMI/DVI In Assign" settings to "AMP".	96, 97
	• The HDMI audio signals are not output from the connected monitor device.	• Set the HDMI audio playback setting at the "HDMI/DVI In Assign" settings to "TV".	96, 97
Power has turned off and the power indicator is flashing red.	• The set's internal temperature has risen and the protection circuit has been activated.	• Put the AVR-4806 in a well-ventilated place. • Turn off the power, then wait for the set to fully cool off before turning the power back on.	
	• The core wires of the speaker cables are touching each other or the AVR-4806's rear panel, activating the protection circuit.	• Check the connections of all the speaker cables.	15
	• AVR-4806 is malfunctioning.	• Turn off the power and contact a DENON customer service center.	
Sound is only produced from the center speaker.	• You are playing a monaural source (TV, AM radio broadcast, etc.) in the DOLBY/DTS SURROUND or HOME THX CINEMA mode.	• When playing monaural sources, select a surround mode other than DOLBY/DTS SURROUND or HOME THX CINEMA.	60, 61

Additional Information

Optimum surround sound for different sources

There are currently various types of multi-channel signals (signals or formats with more than two channels).

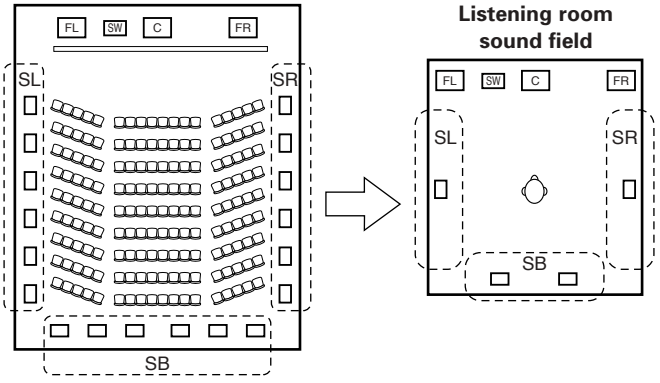
■ Types of multi-channel signals

Dolby Digital (including Surround EX), DTS (including Surround ES), DVD-Audio, and Super Audio CD.
Note on the above: MUSE 3.1 and MPEG multi-channel audio are not available to North American consumers – same is true for Dolby's AAC.

"Source" here does not refer to the type of signal (format) but the recorded content. Sources can be divided into two major categories.

■ Types of sources

- **Movie audio:**
  Signals created to be played in movie theaters. In general sound is recorded to be played in movie theaters equipped with multiple surround speakers, regardless of the format (Dolby Digital, DTS, etc.).

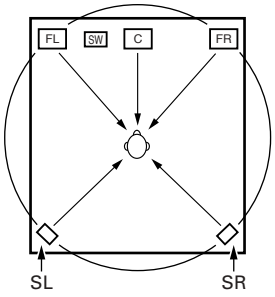


Multiple surround speakers

In this case it is important to achieve the same sense of expansion as in a movie theater with the surround channels.
To do so, in some cases the number of surround speakers is increased (to four or eight) or speakers with bipolar or dipolar properties are used.

SL : Surround L channel
SR : Surround R channel
SB : Surround B (back) channel

- **Other types of audio:**
  These signals are designed to recreate a 360° sound field using three to five speakers.



In this case the speakers should surround the listener from all sides to create a uniform sound field from 360°. Ideally the surround speakers should function as "point" sound sources in the same way as the front speakers.

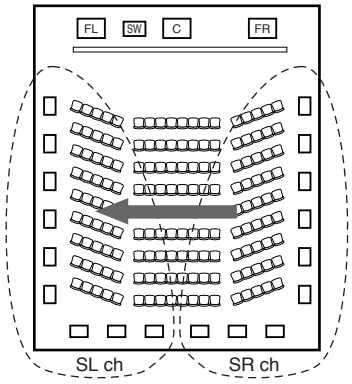
These two types of sources thus have different properties, and different speaker settings, particularly for the surround speakers, are required in order to achieve the ideal sound.

The AVR-4806's surround speaker selection function makes it possible to change the settings according to the combination of surround speakers being used and the surrounding environment in order to achieve the ideal surround sound for all sources. This means that you can connect a pair of bipolar or dipolar surround speakers (mounted on either side of the prime listening position), as well as a separate pair of direct radiating (monopolar) speakers placed at the rear corners of the listening room.

Surround back speakers

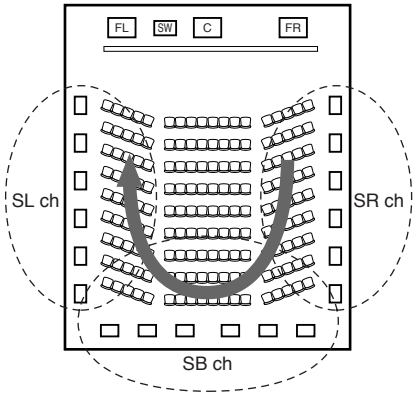
The THX Surround EX format adds new "Surround Back" (SB) channels to the conventional 5.1-channel system. This makes it easy to achieve sound positioned directly behind the listener, something that was previously difficult with sources designed for conventional multi surround speakers. In addition, the acoustic image extending between the sides and the rear is narrowed, thus greatly improving the expression of the surround signals for sounds moving from the sides to the back and from the front to the point directly behind the listening position.

Change of positioning and acoustic image with 5.1-channel systems



Movement of acoustic image from SR to SL

Change of positioning and acoustic image with THX Surround EX system



Movement of acoustic image from SR to SB to SL

Speaker(s) for one or two channels are required in order to achieve a THX Surround EX system with the AVR-4806. Adding these, however, allows you to achieve stronger surround effects not only with sources recorded in THX Surround EX, but also with conventional 2- to 5.1-channel sources. The WIDE SCREEN mode is a mode for achieving surround sound with up to 7.1 channels using surround back speakers, for sources recorded in conventional Dolby Surround as well as Dolby Digital 5.1-channel and DTS Surround 5.1-channel sources. Furthermore, all the Denon original surround modes (☞ page 60) are compatible with 7.1-channel playback, so you can enjoy 7.1-channel sound with any signal source.

■ Number of surround back speakers

With THX Surround EX, the surround back channel consists of one channel of playback signals, but we recommend using two speakers. When using dipolar speakers in particular, it is essential to use two speakers.
Using two speakers results in a smoother blend with the sound of the surround channels and better sound positioning of the surround back channel when listening from a position other than the center.

■ Placement of the surround left and right channels when using surround back speakers

Using surround back speakers greatly improves the positioning of the sound at the rear. Because of this, the surround left and right channels play an important role in achieving a smooth transition of the acoustic image from the front to the back. As shown on the diagram above, in a movie theater the surround signals are also produced from diagonally in front of the listeners, creating an acoustic image as if the sound were floating in space.
To achieve these effects, we recommend placing the speakers for the surround left and right channels slightly more towards the front than with conventional surround systems. Doing so sometimes increases the surround effect when playing conventional 5.1-channel sources in the THX Surround EX mode. Check the surround effects of the various modes before selecting the surround mode.

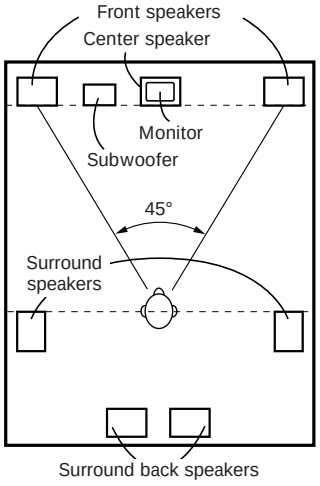
Speaker setting examples

Here we describe a number of speaker settings for different purposes. Use these examples as guides to set up your system according to the type of speakers used and the main usage purpose.

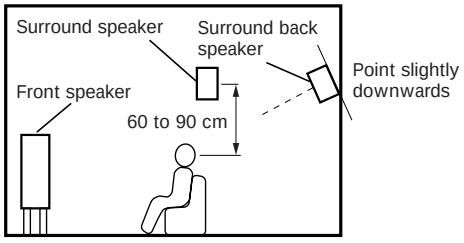
[1] For THX Surround EX systems (using surround back speakers)

① Basic setting for primarily watching movies

This is recommended when mainly playing movies and using regular single way or 2-way speakers for the surround speakers.



[As seen from above]



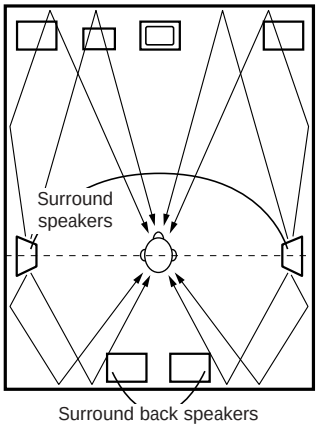
[As seen from the side]

- Set the front speakers with their front surfaces as flush with the TV or monitor screen as possible. Set the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Consult the owner's manual for your subwoofer for advice on placing the subwoofer within the listening room.
- If the surround speakers are direct-radiating (monopolar) then place them slightly behind and at an angle to the listening position and parallel to the walls at a position 60 to 90 centimeters (2 to 3 feet) above ear level at the prime listening position.
- When using two surround back speakers, set them at the back facing front and with both speakers at the same distance from the listening point. When using one surround back speaker, place it at the rear center facing the front at a slightly higher position (0 to 20 cm) than the surround speakers.
- We recommend installing the surround back speaker(s) at a slightly downward facing angle. This effectively prevents the surround back channel signals from reflecting off the monitor or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.
- Connect the surround speakers to the surround speaker A terminals on the AVR-4806 and set settings on the setup menu to "A". (This is the factory default setting (☞ page 126).)

② Setting for primarily watching movies using diffusion type speakers for the surround speakers

For the greatest sense of surround sound envelopment, diffuse radiation speakers such as bipolar types, or dipolar (THX) types, provide a wider dispersion than is possible to obtain from a direct radiating speaker (monopolar). Place these speakers at either side of the prime listening position, mounted above ear level.

Path of the surround sound from the speakers to the listening position



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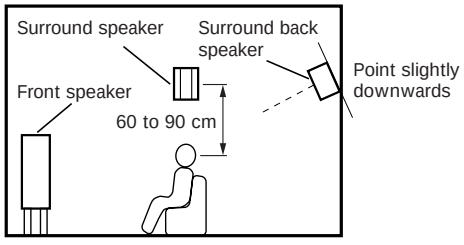


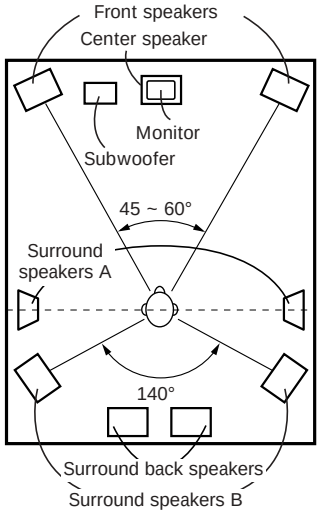
[As seen from the side]

Additional Information

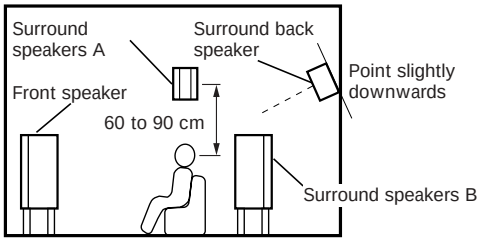
- Set the front speakers, center speaker and subwoofer in the same positions as in example (1).
- It is best to place the surround speakers directly at the side or slightly to the front of the viewing position, and 60 to 90 cm above the ears.
- Same as surround back speaker installation method (1).
- Connect the surround speakers to the surround speaker A terminals on the AVR-4806 and set settings on the setup menu to "A". (This is the factory default setting (☞ page 126).)
- The signals from the surround channels reflect off the walls as shown on the diagram at the left, creating an enveloping and realistic surround sound presentation.
  For multi-channel music sources however, the use of bipolar or dipolar speakers mounted at the sides of the listening position may not be satisfactory in order to create a coherent 360 degree surround sound field. Connect another pair of direct radiating speakers as described in example (3) and place them at the rear corners of the room facing towards the prime listening position.

③ When using different surround speakers for movies and music

To achieve more effective surround sound for both movies and music, use different sets of surround speakers and different surround modes for the two types of sources.



[As seen from above]



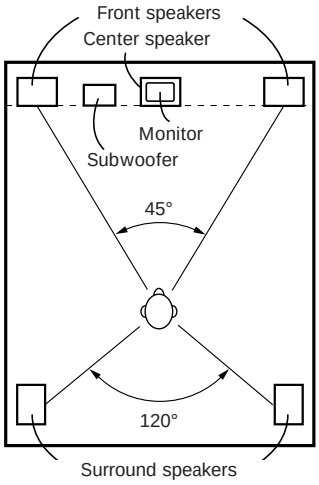
[As seen from the side]

- Set the front speakers slightly wider apart than the setup for watching movies only and point them toward the listening position in order assure clear positioning of the sound.
- Set the center speaker in the same positions as in example (1).
- Set surround speakers A for watching movies in the positions described in example (1) or (2), depending on the types of speakers used.
- Set surround speakers B for playing multi-channel music at the same height as the front speakers and slightly at an angle to the rear of the listening position, and point them toward the listening position.
- Connect the surround speakers for watching movies to the surround speaker A terminals on the AVR-4806, the surround speakers for playing multi-channel music to the surround speaker B terminals. Set the surround speaker selection on the setup menu. (For instructions (☞ page 119, 120).)
- To activate the appropriate speakers for movies and music, we suggest that during setup, choose Dolby Digital/DTS with THX and Surround Speakers A (the bipolar or dipolar speakers mounted at the sides of the listening position). Choose Dolby Digital/DTS without THX and Surround Speakers B (the direct radiating speakers mounted at the rear corners of the listening room). Then, by simply activating the THX function (used during movie playback, the Surround A speakers are automatically activated. For multi-channel music listening (Dolby Digital or DTS music programs), turn off the THX enhancements by touching the THX button on the remote control, and the Surround B speakers will be automatically activated.

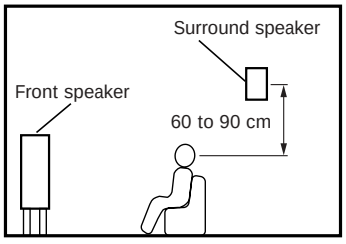
  Example: Movie sources (Dolby, DTS surround, etc.)
  "THX" or "THX 5.1" mode ··· Speakers A
  Music sources (DVD video, DTS CD, etc.)
  "Dolby/DTS surround" ··· Speakers B

  ※ The speakers can be switched at the touch of a button by turning HOME THX CINEMA on when playing movies and off when playing multi-channel music.

[2] When not using surround back speakers



[As seen from above]



[As seen from the side]

- Set the front speakers with their front surfaces as flush with the TV or monitor screen as possible. Set the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Consult the owner's manual for your subwoofer for advice on placing the subwoofer within the listening room.
- If the surround speakers are direct-radiating (monopolar) then place them slightly behind and at an angle to the listening position and parallel to the walls at a position 60 to 90 centimeters (2 to 3 feet) above ear level at the prime listening position.
- Connect the surround speakers to the surround speaker A terminals on the AVR-4806 and set settings on the setup menu to "A". (This is the factory default setting (☞ page 126).)
- The surround speakers can be switched freely during playback with the surround parameter adjustment (☞ page 45).

Surround

The AVR-4806 is equipped with a digital signal processing circuit that lets you play program sources in the surround mode to achieve the same sense of presence as in a movie theater.

[1] Dolby Surround

① Dolby Digital

Dolby Digital is the multi-channel digital signal format developed by Dolby Laboratories.

Dolby Digital consists of up to "5.1" channels - front left, front right, center, surround left, surround right, and an additional channel exclusively reserved for additional deep bass sound effects (the Low Frequency Effects – LFE – channel, also called the ".1" channel, containing bass frequencies of up to 120 Hz).

Unlike the analog Dolby Pro Logic format, Dolby Digital's main channels can all contain full range sound information, from the lowest bass, up to the highest frequencies – 22 kHz. The signals within each channel are distinct from the others, allowing pinpoint sound imaging, and Dolby Digital offers tremendous dynamic range from the most powerful sound effects to the quietest, softest sounds, free from noise and distortion.

■ Dolby Digital and Dolby Pro Logic

Comparison of home surround systems	Dolby Digital	Dolby Pro Logic
No. recorded channels (elements)	5.1 ch	2 ch
No. playback channels	5.1 ch	4 ch
Playback channels (max.)	L, R, C, SL, SR, SW	L, R, C, S (SW - recommended)
Audio processing	Digital discrete processing Dolby Digital encoding/ decoding	Analog matrix processing Dolby Surround
High frequency playback limit of surround channel	20 kHz	7 kHz

■ Dolby Digital compatible media and playback methods

Marks indicating Dolby Digital compatibility: DOLBY DIGITAL .

The following are general examples. Also refer to the player's operating instructions.

Media	Dolby Digital output terminals	Playback method (reference page)
DVD ※1	Optical or coaxial digital output (same as for PCM) ※1	Set the input mode to "AUTO" (☞ page 45).
Others (satellite broadcasts, CATV, etc.)	Optical or coaxial digital output (same as for PCM)	Set the input mode to "AUTO" (☞ page 45).

※1: Some DVD digital outputs have the function of switching the Dolby Digital signal output method between "bit stream" and "(convert to) PCM". When playing in Dolby Digital surround on the AVR-4806, switch the DVD player's output mode to "bit stream". In some cases players are equipped with both "bit stream + PCM" and "PCM only" digital outputs. In this case connect the "bit stream + PCM" terminals to the AVR-4806.

② Dolby Pro Logic Ⅱ

- Dolby Pro Logic Ⅱ is a new multi-channel playback format developed by Dolby Laboratories using feedback logic steering technology and offering improvements over conventional Dolby Pro Logic circuits.
- Dolby Pro Logic Ⅱ can be used to decode not only sources recorded in Dolby Surround (※) but also regular stereo sources into five channels (front left, front right, center, surround left and surround right) to achieve surround sound.
- Whereas with conventional Dolby Pro Logic the surround channel playback frequency band was limited, Dolby Pro Logic Ⅱ offers a wider band range (20 Hz to 20 kHz or greater). In addition, the surround channels were monaural (the surround left and right channels were the same) with previous Dolby Pro Logic, but Dolby Pro Logic Ⅱ they are played as stereo signals.
- Various parameters can be set according to the type of source and the contents, so it is possible to achieve optimum decoding (☞ page 56).

③ Dolby Pro Logic Ⅱx

- Dolby Pro Logic Ⅱx furthers the matrix decoding technology of Dolby Pro Logic Ⅱ to decode audio signals recorded on two channels into up to 7.1 playback channels, including the surround back channel. Dolby Pro Logic Ⅱx also allows 5.1-channel sources to be played in up to 7.1 channels.
  The mode can be selected according to the source. The Music mode is best suited for playing music, the Cinema mode for playing movies, and the Game mode for playing games. The Game mode can only be used with 2-channel audio sources.

※ Sources recorded in Dolby Surround

- These are sources in which three or more channels of surround have been recorded as two channels of signals using Dolby Surround encoding technology.
- Dolby Surround is used for the sound tracks of movies recorded on DVDs, LDs and video cassettes to be played on stereo VCRs, as well as for the stereo broadcast signals of FM radio, TV, satellite broadcasts and cable TV.
- Decoding these signals with Dolby Pro Logic makes it possible to achieve multi-channel surround playback. The signals can also be played on ordinary stereo equipment, in which case they provide normal stereo sound.
- There are two types of DVD Dolby Surround recording signals.
  ① 2-channel PCM stereo signals
  ② 2-channel Dolby Digital signals

■ Sources recorded in Dolby Surround are indicated with the logo mark shown below

Dolby Surround support mark: DOLBY SURROUND

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX" and the double-D symbol are trademarks of Dolby Laboratories.

④ Dolby Headphone

- This is a three-dimensional sound technology developed jointly by Dolby Laboratories and Lake Technology Ltd. of Australia for achieving surround sound using regular headphones.
- Previously, when using headphones all the sounds resonated inside the head and it was uncomfortable to listen with headphones for long periods of time. Dolby Headphone simulates speaker playback in a room and places the sound at the front or the sides, outside the head, to achieve a powerful sound like the sound of movie or home theaters. This technology is mainly for multichannel audio/video equipment with Dolby Digital or Dolby Pro Logic Surround decoding functions and works with a high performance digital signal processing (DSP) chip.
- Dolby Headphone is effective not only for multichannel sources but also for stereo programs.
- On the AVR-4806, it is possible to output signals encoded in the Dolby Headphone mode from the recording output terminal and record them on a separate recorder.

[2] DTS Digital Surround

DTS Digital Surround (also called simply DTS) is a multi-channel digital signal format developed by Digital Theater Systems.

DTS offers the same "5.1" playback channels as Dolby Digital (front left, front right and center, surround left and surround right) as well as the stereo 2-channel mode. The signals for the different channels are fully independent, eliminating the risk of deterioration of sound quality due to interference between signals, crosstalk, etc.

DTS features a relatively higher bit rate as compared to Dolby Digital (1234 kbps for CDs and LDs, 1536 kbps for DVDs) so it operates with a relatively low compression rate. Because of this the amount of data is great, and when DTS playback is used in movie theaters, a separate CD-ROM synchronized with the film is played.

With LDs and DVDs, there is of course no need for an extra disc; the pictures and sound can be recorded simultaneously on the same disc, so the discs can be handled in the same way as discs with other formats.

There are also music CDs recorded in DTS. These CDs include 5.1-channel surround signals (compared to two channels on current CDs). They do not include picture data, but they offer surround playback on CD players that are equipped with digital outputs (PCM type digital output required).

DTS surround track playback offers the same intricate, grand sound as in a movie theater, right in your own listening room.

■ DTS compatible media and playback methods

Marks indicating DTS compatibility: DIGITAL dts SURROUND and dts .

The following are general examples. Also refer to the player's operating instructions.

Media	DTS Digital output terminals	Playback method (reference page)
CD	Optical or coaxial digital output (same as for PCM) ※2	Set the input mode to "AUTO" or "DTS" (☞ page 45, 46). Never set the mode to "ANALOG" or "PCM". ※1
DVD	Optical or coaxial digital output (same as for PCM) ※3	Set the input mode to "AUTO" or "DTS" (☞ page 45, 46).

※1: DTS signals are recorded in the same way on CDs and LDs as PCM signals. Because of this, the un-decoded DTS signals are output as random "hissy" noise from the CD or LD player's analog outputs. If this noise is played with the amplifier set at a very high volume, it may possibly cause damage to the speakers. To avoid this, be sure to switch the input mode to "AUTO" or "DTS" before playing CDs or LDs recorded in DTS. Also, never switch the input mode to "ANALOG" or "PCM" during playback. The same holds true when playing CDs or LDs on a DVD player or LD/DVD compatible player. For DVDs, the DTS signals are recorded in a special way so this problem does not occur.

※2: The signals provided at the digital outputs of a CD or LD player may undergo some sort of internal signal processing (output level adjustment, sampling frequency conversion, etc.). In this case the DTS-encoded signals may be processed erroneously, in which case they cannot be decoded by the AVR-4806, or may only produce noise. Before playing DTS signals for the first time, turn down the master volume to a low level, start playing the DTS disc, then check whether the DTS indicator on the AVR-4806 (☞ page 53) lights before turning up the master volume.

※3: A DVD player with DTS-compatible digital output is required to play DTS DVDs. A DTS Digital Output logo is featured on the front panel of compatible DVD players. Recent DENON DVD player models feature DTS-compatible digital output – consult the player's owner's manual for information on configuring the digital output for DTS playback of DTS-encoded DVDs.

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[3] DTS-ES Extended Surround™

DTS-ES Extended Surround is a new multi-channel digital signal format developed by Digital Theater Systems Inc. While offering high compatibility with the conventional DTS Digital Surround format, DTS-ES Extended Surround greatly improves the 360-degree surround impression and space expression thanks to further expanded surround signals. This format has been used professionally in movie theaters since 1999.

In addition to the 5.1 surround channels (FL, FR, C, SL, SR and LFE), DTS-ES Extended Surround also offers the SB (Surround Back, sometimes also referred to as "surround center") channel for surround playback with a total of 6.1 channels. DTS-ES Extended Surround includes two signal formats with different surround signal recording methods, as described below.

■ DTS-ES™ Discrete 6.1

DTS-ES Discrete 6.1 is the newest recording format. With it, all 6.1 channels (including the SB channel) are recorded independently using a digital discrete system. The main feature of this format is that because the SL, SR and SB channels are fully independent, the sound can be designed with total freedom and it is possible to achieve a sense that the acoustic images are moving about freely among the background sounds surrounding the listener from 360 degrees.

Though maximum performance is achieved when sound tracks recorded with this system are played using a DTS-ES decoder, when played with a conventional DTS decoder the SB channel signals are automatically down-mixed to the SL and SR channels, so none of the signal components are lost.

■ DTS-ES™ Matrix 6.1

With this format, the additional SB channel signals undergo matrix encoding and are input to the SL and SR channels beforehand. Upon playback they are decoded to the SL, SR and SB channels. The performance of the encoder used at the time of recording can be fully matched using a high precision digital matrix decoder developed by DTS, thereby achieving surround sound more faithful to the producer's sound design aims than with conventional 5.1- or 6.1-channel systems.

In addition, the bit stream format is 100% compatible with conventional DTS signals, so the effect of the Matrix 6.1 format can be achieved even with 5.1-channel signal sources. Of course it is also possible to play DTS-ES Matrix 6.1 encoded sources with a DTS 5.1-channel decoder.

When DTS-ES Discrete 6.1 or Matrix 6.1 encoded sources are decoded with a DTS-ES decoder, the format is automatically detected upon decoding and the optimum playing mode is selected. However, some Matrix 6.1 sources may be detected as having a 5.1-channel format, so the DTS-ES Matrix 6.1 mode must be set manually to play these sources. (For instructions on selecting the surround mode (☞ page 52).)

The DTS-ES decoder includes another function, the DTS Neo:6 surround mode for 6.1-channel playback of digital PCM and analog signal sources.

■ DTS Neo:6™ surround

This mode applies conventional 2-channel signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1-channel surround playback. High precision input signal detection and matrix processing enable full band reproduction (frequency response of 20 Hz to 20 kHz or greater) for all 6.1 channels, and separation between the different channels is improved to the same level as that of a digital discrete system.

DTS Neo:6 surround includes two modes for selecting the optimum decoding for the signal source.

• DTS Neo:6 Cinema

This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.

This mode is effective for playing sources recorded in conventional surround formats as well, because the in-phase component is assigned mainly to the center channel (C) and the reversed phase component to the surround (SL, SR and SB channels).

• DTS Neo:6 Music

This mode is suited mainly for playing music. The front channel (FL and FR) signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals output from the center (C) and surround (SL, SR and SB) channels add a natural sense of expansion to the sound field.

[4] DTS 96/24

The sampling frequency, number of bits and number of channels used for recording of music, etc., in studios has been increasing in recent years, and there are a growing number of high quality signal sources, including 96 kHz/24 bit 5.1-channel sources.

For example, there are high picture/sound quality DVD video sources with 96 kHz/24 bit stereo PCM audio tracks. However, because the data rate for these audio tracks is extremely high, there are limits to recording them on two channels only, and since the quality of the pictures must be restricted it is common to only include still pictures.

In addition, 96 kHz/24 bit 5.1-channel surround is possible with DVD audio sources, but DVD audio players are required to play them with this high quality.

DTS 96/24 is a multi-channel digital signal format developed by Digital Theater Systems Inc. in order to deal with this situation.

Conventional surround formats used sampling frequencies of 48 or 44.1 kHz, so 20 kHz was about the maximum playback signal frequency. With DTS 96/24, the sampling frequency is increased to 96 or 88.2 kHz to achieve a wide frequency range of over 40 kHz.

In addition, DTS 96/24 has a resolution of 24 bits, resulting in the same frequency band and dynamic range as 96 kHz/24 bit PCM.

As with conventional DTS Surround, DTS 96/24 is compatible with a maximum of 5.1 channels, so sources recorded using DTS 96/24 can be played in high sampling frequency, multiple channel audio with such normal media as DVD videos and CDs.

Thus, with DTS 96/24, the same 96 kHz/24 bit multi-channel surround sound as with DVD-Audio can be achieved while viewing DVD-Video images on a conventional DVD-Video player (※1). Furthermore, with DTS 96/24 compatible CDs, 88.2 kHz/24 bit multi-channel surround can be achieved using normal CD/LD players (※1).

Even with the high quality multi-channel signals, the recording time is the same as with conventional DTS surround sources.

What's more, DTS 96/24 is fully compatible with the conventional DTS surround format, so DTS 96/24 signal sources can be played with a sampling frequency of 48 kHz or 44.1 kHz on conventional DTS or DTS-ES surround decoders (※2).

※1 A DVD player with DTS digital output capabilities (for CD/LD players, a player with digital outputs for conventional DTS CDs/LDs) and a disc recorded in DTS 96/24 are required.

※2 The resolution is 24 or 20 bits, depending on the decoder.

[5] Home THX Cinema Surround

THX is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, in both movie theaters and in your home theater, as faithful as possible to what the director intended.

Movie soundtracks are mixed in special movie theaters called dubbing stages and are designed to be played back in movie theaters with similar equipment and conditions. The soundtrack created for movie theaters is then transferred directly onto Laserdisc, VHS tape, DVD, etc., and is not changed for playback in a small home theater environment.

THX engineers developed patented technologies to accurately translate the sound from the movie theater environment into the home, correcting the tonal and spatial errors that occur. On the AVR-4806, when the Home THX Cinema mode is on, THX post-processing is automatically added after the Dolby Pro Logic, Dolby Digital or DTS decoder:

■ Re-Equalization™

The tonal balance of a film soundtrack will be excessively bright and harsh when played back over audio equipment in the home because film soundtracks are designed to be played back in large movie theaters using very different professional equipment. Re-Equalization restores the correct tonal balance for listening to a movie soundtrack in a normal home environment.

■ Timbre Matching™

The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theater, there is an array of surround speakers so that the surround information is all around you. In a home theater, only two speakers located to the side of your head are used. The Timbre Matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

■ Adaptive Decorrelation™

In a movie theater, a large number of surround speakers help create an enveloping surround sound experience, while in a home theater there are usually only two speakers. This can make the surround speakers sound like headphones that lack spaciousness and envelopment. The surround sounds will also collapse into the closest speaker as you move away from the middle seating position. Adaptive Decorrelation slightly changes one surround channel's time and phase relationship with respect to the other surround channel. This expands the listening position and creates—with only two speakers—the same spacious surround experience as in a movie theater.

■ THX Ultra2™

Before any home theater component can be THX Ultra2 certified, it must incorporate all the features above and also pass a rigorous series of quality and performance tests. Only then can a product feature the THX Ultra2 logo, which is your guarantee that the Home Theater products you purchase will give you superb performance for many years to come. THX Ultra2 requirements cover every aspect of the product including power amplifier performance, pre-amplifier performance and operation, as well as hundreds of other parameters in both the digital and analog domain.

In addition to improvements to the power amplifier with respect to previous THX Ultra standards, three surround modes have been added: the THX Ultra2 Cinema mode, THX Music Mode and THX Games Mode.

■ THX Ultra2 Cinema

THX Ultra2 Cinema mode plays 5.1 movies using all 8 speakers giving you the best possible movie watching experience. In this mode, new THX processing blends the side surround speakers and back surround speakers providing the optimal mix of ambient and directional surround sounds.

DTS-ES (Matrix and 6.1 Discrete) and Dolby Digital Surround EX encoded soundtracks will be automatically detected in Ultra2 Cinema mode if the appropriate flag has been encoded.

Some Dolby Digital Surround EX soundtracks are missing the digital flag that allows automatic switching. If you know that the movie that you are watching is encoded in Surround EX, you can manually select the THX Surround EX playback mode, otherwise THX Ultra2 Cinema mode will apply processing to provide optimum replay.

■ THX Music Mode

For the replay of 5.1 multi-channel music the THX Music Mode should be selected. In this mode new THX processing is applied to the surround channels of all 5.1 encoded music sources such as DTS and Dolby Digital to provide a wide stable rear soundstage.

■ THX Games Mode

For the replay of stereo and multi-channel game audio the THX Games Mode should be selected. In this mode THX ASA processing is applied to the surround channels of all 5.1 and 2.0 encoded game sources such as analog, PCM, DTS and Dolby Digital. This accurately places all game audio surround information, providing a full 360 degree playback environment. THX Games Mode is unique as it gives you a smooth transition of audio in all points of the surround field.

■ ASA (Advanced Speaker Array)

ASA is a proprietary THX technology which processes the sound fed to 2 side and 2 back surround speakers to provide the optimal surround sound experience. When you set up your home theater system using all eight speaker outputs (Left, Center, Right, Surround Right, Surround Back Right, Surround Back Left, Surround Left and Subwoofer) placing the two Surround Back speakers close together facing the front of the room as shown in the diagram will provide the largest sweet spot. If for practical reasons you have to place the Surround Back speakers apart, you will need to go THX Audio Set-up screen and choose the setting that most closely corresponds to the speaker spacing, which will re-optimize the surround sound-field.

ASA is used in three new modes; THX Ultra2 Cinema, THX MusicMode and THX Games Mode.

■ Boundary Gain Compensation

If your chosen listening room layout (for practical or aesthetic reasons) results in the most of the listeners being close to the rear wall, the resulting bass level can be sufficiently reinforced by the boundary that the overall sound quality becomes “boomy”. THX Ultra2 receivers and controllers contain the BGC (Boundary Gain Compensation) feature to provide an improved bass balance. BGC can be selected by choosing “THX Ultra2 Subwoofer–Yes” from the “Boundary Gain Compensation” section of the THX Audio setup menu.

“THX”, “Home THX”, “Re-Equalization”, “Timbre Matching”, “Adaptive Decorrelation”, “Advanced Speaker Array” and “THX Ultra” are trademarks of THX Ltd.

[6] THX Surround EX

In 1999, a new surround system was launched simultaneously with the release of the movie "Star Wars Episode I". "Dolby Digital Surround EX" is a new movie sound track that greatly enhances the sense of spatial expression and the positioning of the surround channel sound. The result is 360 degrees of movement and moving sound effects that seem to pass right over the listener's head.

This system was developed jointly by THX and Dolby Laboratories, fusing THX's idea of improving spatial expression and achieving a uniform 360 degree sound positioning with Dolby Laboratories' matrix encoding technology. Emphasis was placed on compatibility with the existing system Dolby Digital 5.1-channel, and the new "surround back (SB) channel" was added to achieve improvements over the conventional 5.1-channel system in terms of the positioning of the sound at the rear, the acoustic image of sound moving from the two sides to the back as well as sound moving from the front to the center rear with the multi surround speaker systems used in movie theaters, thereby enabling various types of surround sound.

The surround back channel signal is a matrix-encoded signal inserted into both the Dolby Digital SL (surround left) and SR (surround right) channels. Upon playback, the signals are decoded by a high precision digital matrix decoder within the Dolby Digital decoder into the SL, SR and SB channels and output as 6.1 channels of signals. With the AVR-4806, the signals further undergo Home THX Cinema processing to achieve a THX Surround EX system. Even without the proper environment for playing the SB channel, Dolby Digital Surround EX signals are 100% compatible with existing 5.1-channel playback systems, so they can be played as such. In this case, the SB channel signal is produced as a monaural signal from both the SL and SR channels, so none of the signal components are missing. The effects specific to THX Surround EX (the sense of spatial expression and the positioning of the sound), however, are the same as with conventional 5.1-channel surround systems.

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Audyssey MultEQ XT

There are several factors that can degrade the sound from even the best loudspeakers in a listening room. One of the most important is the interaction of sound from the loudspeakers with large surfaces such as walls, the floor, and the ceiling in the room. Even with careful loudspeaker placement and acoustical treatments, there are significant problems that are caused by room acoustics. These include reflections from nearby surfaces and standing waves that are created between large parallel surfaces in the room.

In a home theater the situation is further complicated because there are several listening locations. The effects of room acoustics on the sound arriving at each person's ears are very different and the result is a listening experience that is degraded in a different way for every person in the room. It is not uncommon to have variations in two adjacent seats that are as large as 10 dB, particularly in the frequency range below 250 Hz.

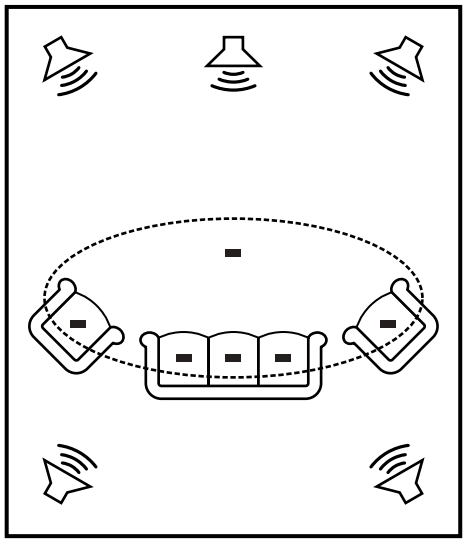
The solution to this problem is to apply room correction after precisely measuring how each loudspeaker interacts with the room. Because the room causes variations in the frequency response of the loudspeakers that are so large from seat to seat, it is important to measure each loudspeaker at several locations in the listening room. This should be done even if there is only one listener. Measurement at a single location is not representative of the acoustical problems in the room and will, in most cases, degrade overall performance.

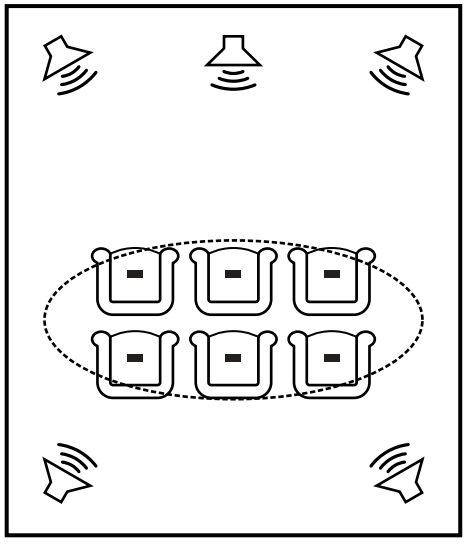
Audyssey MultEQ XT is the only technology that can achieve room correction for multiple listeners in a large listening area. It does so by combining the data collected at several points in the room from each loudspeaker and then applying correction that minimizes the acoustical effects of the room and is matched to the frequency resolution of human perception (known as psychoacoustics). Furthermore, MultEQ XT correction is applied both in frequency and time domains and so there are no artifacts (such as smearing of sound or modal ringing) that are sometimes associated with traditional methods of room equalization.

In addition to correcting frequency response problems over a wide listening area, Audyssey MultEQ XT provides a completely automated sound system set-up process. It identifies how many loudspeakers are connected to the amplifiers and whether they are full-range, satellites, or subwoofers. If there is a least one subwoofer connected, Audyssey MultEQ XT determines the optimum crossover frequency between each satellite and the subwoofer(s). It automatically checks the polarity of each loudspeaker and alerts the user if there are any that may be wired out-of-phase relative to the others. It measures the distance to each loudspeaker from the main listening position and adjusts the delays so that sound from each loudspeaker arrives at the same time. Finally, Audyssey MultEQ XT determines the playback level of each loudspeaker and adjusts the volume trims so that all levels are equal.

Additional Information

The two diagrams below illustrate two examples of microphone placement for two types of seating arrangements. There are six measuring positions shown in each case. Increasing the number of measuring points will provide a better sampling of the listening area and produce better results. The dotted line represents the area in which the room correction provided by Audyssey MultEQ XT is optimal. The microphone must be placed at ear height at each location.





Audyssey MULTEQ XT

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HDCD® (High Definition Compatible Digital®)

HDCD is an encoding/decoding technology that greatly reduces the distortion that occurs upon digital recording while maintaining compatibility with the conventional CD format, thus expanding the dynamic range and achieving a high resolution.
Conventional CDs and HDCD compatible CDs are identified automatically to select the optimum digital processing.

HDCD

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DENON LINK (DENON Digital Link)

High-grade LPCM 24-bit, 96-kHz, 6-channel or 24-bit, 192-kHz, 2-channel digital input is possible when the AVR-4806 is connected via a shielded twisted pair (STP) cable to a DENON DVD player that supports Denon Digital Link, Since DENON Digital Link uses low-voltage differential signaling (LVDS), transfer capabilities of greater than 1.2 Gbps at a differential voltage of approximately 0.3Vpp are possible.

About IEEE1394

IEEE1394 is an international standard established by the Institute of Electrical and Electronics Engineers (IEEE) of the United States.
The AVR-4806 can be connected to an IEEE1394 compatible device using an IEEE1394 cable to enable digital transfer of multi-channel audio sources (DVD Audio discs, Super Audio CDs, etc.) with a single cable.

- The AVR-4806's transfer format is compatible with A&M protocol.
  In addition to A&M protocol, IEEE1394 transfer formats also include MPEG-TS, DV, etc.
- The AVR-4806 is compatible with a data transfer speed of up to S400.
  The IEEE1394 maximum data transfer speeds are defined as approximately 100, 200 or 400 Mbps, expressed respectively as S100, S200 and S400. When S100 or S200 devices are connected, the actually transfer rate may be slower than 400 Mbps, depending on the device's specifications. As far as possible, interconnect devices with the same maximum data transfer rate.
- The AVR-4806 is compatible with the DTCP (Digital Transmission Content Protection) system.

■ Copyright protection system

In order to play the sound of DVD Audio discs, Super Audio CDs or DVDs (aside from freely copiable discs) using IEEE1394 connections, both the player and receiver must be compatible with the DTCP (Digital Transmission Content Protection) system.
DTCP is a copy protection technology that involves data encryption and authentication of the other device. Refer to your player's operating instructions.

The AVR-4806's IEEE1394 device interface is designed based on the standards below.
1) IEEE Std. 1394a-2000, Standard for High Performance Serial Bus
2) Audio and Music Data Transmission Protocol 2.0
It is compatible with IEC60958 bit stream, DVD-Audio and Super Audio CD within AM824 sequence adaptation layers within these standards.

About HDMI

"HDMI" is the abbreviation of "High Definition Multimedia Interface".
This is a digital interface standard for next generation TVs developed based on the DVI (Digital Visual Interface) used for computer displays, etc., and optimized for use in non-professional equipment. With it, non-compressed digital video and multi-channel audio signals can be transferred with a single connector, eliminating the need to use separate cables for the picture and sound and making it possible to make connectors smaller. HDMI is also compatible with HDCP (High-bandwidth Digital Contents Protection), a technology for protecting copyrights that encrypts digital video signals in the same was as with DVI.

HDMI

- HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

AL24 Plus (AL24 Processing Plus)

■ AL24 Processing for All Channels

DENON has further developed its proprietary AL24 Processing, an analog waveform reproduction technology, to support the 192-kHz sampling frequency of DVD-Audio. AL24 Processing Plus, thoroughly suppresses quantization noise associated with D/A conversion of LPCM signals to reproduce the low-level signals with optimum clarity that will bring out all the delicate nuances of the music.
Equipped foe not only front left and right channels but also for the surround left and right, center and subwoofer channels.

Surround modes and parameters

Surround Mode	Signals and adjustability in the different modes													
	Channel output					Parameter (default values are shown in parentheses)								
						When playing Dolby Digital and DTS signals								
	FRONT L/R	CENTER	SURROUND L/R	SURROUND BACK L/R	SUB-WOOFER	D. COMP	LFE	AFDM	SB CH OUT (MODE)	TONE CONTROL	CINEMA EQ.	MODE (DECODER)	ROOM SIZE	EFFECT LEVEL
PURE DIRECT, DIRECT	○	×	×	×	◎	○ (OFF)	○ (0 dB)	×	×	×	×	×	×	×
DSD DIRECT	○	×	×	×	◎	×	×	×	×	×	×	×	×	×
DSD MULTI DIRECT	○	◎	◎	◎	◎	×	×	×	○	×	×	×	×	×
MULTI CH DIRECT	○	◎	◎	◎	◎	×	×	×	○	×	×	×	×	×
STEREO	○	×	×	×	◎	○ (OFF)	○ (0 dB)	×	×	○ (0 dB)	×	×	×	×
EXT.IN	○	◎	◎	◎	◎	×	×	×	×	×	×	×	×	×
MULTI CH IN	○	◎	◎	◎	◎	×	×	×	○	○ (0 dB)	×	×	×	×
WIDE SCREEN	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	○ (OFF)	×	×	○ (ON, 10)
HOME THX CINEMA (2ch)	○	◎	◎	◎	◎	×	×	×	○	×	×	○ (PLIIx C)	×	×
HOME THX CINEMA (5.1ch)	○	◎	◎	◎	◎	×	○ (0 dB)	○ (ON)	○	×	×	×	×	×
DOLBY PRO LOGIC IIx	○	◎	◎	◎	◎	○ (OFF)	×	×	○	○ (0 dB)	○ (NOTE3)	○ (CINEMA)	×	×
DOLBY PRO LOGIC II	○	◎	◎	◎	◎	○ (OFF)	×	×	○	○ (0 dB)	○ (NOTE4)	○ (CINEMA))	×	×
DTS NEO:6	○	◎	◎	◎	◎	○ (OFF)	×	×	○	○ (0 dB)	○ (NOTE3)	○ (CINEMA)	×	×
DOLBY DIGITAL	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	○ (ON)	○	○ (0 dB)	○ (OFF)	×	×	×
DTS SURROUND	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	○ (ON)	○	○ (0 dB)	○ (OFF)	×	×	×
7CH STEREO	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	×	×
SUPER STADIUM	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (NOTE1)	×	×	○ (Medium)	○ (10)
ROCK ARENA	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (NOTE2)	×	×	○ (Medium)	○ (10)
JAZZ CLUB	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	○ (Medium)	○ (10)
CLASSIC CONCERT	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	○ (Medium)	○ (10)
MONO MOVIE	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	○ (Medium)	○ (10)
VIDEO GAME	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	○ (Medium)	○ (10)
MATRIX	○	◎	◎	◎	◎	○ (OFF)	○ (0 dB)	×	○	○ (0 dB)	×	×	×	×

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Able
× : Unable
NOTE1 : BASS +6 dB, TREBLE 0 dB
NOTE2 : BASS +6 dB, TREBLE +4 dB
NOTE3 : This parameter is availabe when the “MODE” is set to “CINEMA”.
NOTE4 : This parameter is availabe when the “MODE” is set to “CINEMA” or “PL”.

Surround Mode	Signals and adjustability in the different modes						
	Parameter (default values are shown in parentheses)						
	DELAY TIME	SUBWOOFER ON/OFF	PRO LOGIC Ⅱ/Ⅱx MUSIC MODE only			NEO:6 MUSIC MODE only	EXT. IN only
			PANORAMA	DIMENSION	CENTER WIDTH	CENTER IMAGE	SW ATT
PURE DIRECT, DIRECT	×	○	×	×	×	×	×
DSD DIRECT	×	○	×	×	×	×	×
DSD MULTI DIRECT	×	×	×	×	×	×	×
MULTI CH DIRECT	×	×	×	×	×	×	×
STEREO	×	×	×	×	×	×	×
EXT.IN	×	×	×	×	×	×	○
MULTI CH IN	×	×	×	×	×	×	×
WIDE SCREEN	×	×	×	×	×	×	×
HOME THX CINEMA (2ch)	×	×	×	×	×	×	×
HOME THX CINEMA (5.1ch)	×	×	×	×	×	×	×
DOLBY PRO LOGIC Ⅱx	×	×	○ (OFF)	○ (3)	○ (3)	×	×
DOLBY PRO LOGIC Ⅱ	×	×	○ (OFF)	○ (3)	○ (3)	×	×
DTS NEO:6	×	×	×	×	×	○ (0.3)	×
DOLBY DIGITAL	×	×	×	×	×	×	×
DTS SURROUND	×	×	×	×	×	×	×
7CH STEREO	×	×	×	×	×	×	×
SUPER STADIUM	×	×	×	×	×	×	×
ROCK ARENA	×	×	×	×	×	×	×
JAZZ CLUB	×	×	×	×	×	×	×
CLASSIC CONCERT	×	×	×	×	×	×	×
MONO MOVIE	×	×	×	×	×	×	×
VIDEO GAME	×	×	×	×	×	×	×
MATRIX	○ (30 msec)	×	×	×	×	×	×

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Adjustable
× : Not adjustable

■ Differences in surround mode names depending on the input signals

Button: Surround Mode	Note	Input signals: ANALOG	LINEAR PCM	DTS: DTS ES DSCRT (With Flag)	DTS: DTS ES MTRX (With Flag)	DTS: DTS (5.1ch)	DTS: DTS 96/24	DOLBY DIGITAL: DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL: DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL: DOLBY DIGITAL (5.1ch)	DOLBY DIGITAL: DOLBY DIGITAL (3, 4, 5ch)	DOLBY DIGITAL: DOLBY DIGITAL (2ch)	DVD-AUDIO: DVD-Audio (multi ch)	DVD-AUDIO: DVD-Audio (2ch)	DVD-AUDIO: 176.4/192kHz	Super Audio CD: DSD (multi ch)	Super Audio CD: DSD (2ch)
HOME THX CINEMA																	
ES DSCRT6.1 + THX	*1	×	×	◎	×	×	×	×	×	×	×	×	×	×	×	×	×
ES MTRX6.1 + THX	*1	×	×	×	◎	○	○	×	×	×	×	×	×	×	×	×	×
THX SURROUND EX	*1	×	×	×	×	×	×	◎	○	○	○	×	○	×	×	○	×
THX Ultra2 Cinema	*2	×	×	○	○	○	○	○	○	○	○	×	○	×	×	○	×
THX Music Mode	*2	×	×	○	○	○	○	○	○	○	○	×	○	×	×	○	×
THX Games mode	*2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
THX 5.1		×	×	○	○	○	○	○	○	○	○	×	○	×	×	○	×
PLⅡx C + THX	*4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PLⅡ C + THX		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PL + THX		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
NEO:6 + THX		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
STANDARD																	
DTS SURROUND																	
DTS ES DSCRT6.1	*1	×	×	● ◎	×	×	×	×	×	×	×	×	×	×	×	×	×
DTS ES MTRX6.1	*1	×	×	×	● ◎	×	×	×	×	×	×	×	×	×	×	×	×
DTS SURROUND		×	×	○	○	●	×	×	×	×	×	×	×	×	×	×	×
DTS 96/24		×	×	×	×	×	●	×	×	×	×	×	×	×	×	×	×
DTS + PLⅡx CINEMA	*2	×	×	○	○	○	○	×	×	×	×	×	×	×	×	×	×
DTS + PLⅡx MUSIC	*1	×	×	○	○	○	○	×	×	×	×	×	×	×	×	×	×
DTS + NEO:6	*1	×	×	×	○	○	○	×	×	×	×	×	×	×	×	×	×
DTS NEO:6 CINEMA		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DTS NEO:6 MUSIC		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY SURROUND																	
DOLBY DIGITAL EX	*1	×	×	×	×	×	×	○	○	○	○	×	×	×	×	×	×
DOLBY DIGITAL		×	×	×	×	×	×	○	●	●	●	×	×	×	×	×	×
DOLBY DIGITAL+PLⅡx CINEMA	*2	×	×	×	×	×	×	● ◎	○	○	○	×	×	×	×	×	×
DOLBY DIGITAL+PLⅡx MUSIC	*1	×	×	×	×	×	×	○	○	○	○	×	×	×	×	×	×
DOLBY PRO LOGIC Ⅱx CINEMA		○	○	×	×	×	×	×	×	×	×	●	×	○	○	×	○
DOLBY PRO LOGIC Ⅱx MUSIC		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PRO LOGIC Ⅱx GAME		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PRO LOGIC Ⅱ CINEMA		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PRO LOGIC Ⅱ MUSIC		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PRO LOGIC Ⅱ GAME		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
DOLBY PRO LOGIC		○	○	×	×	×	×	×	×	×	×	○	×	○	○	×	○
MULTI CH IN																	
MULTI CH IN		×	×	×	×	×	×	×	×	×	×	×	●	×	×	●	×
MULTI IN + PLⅡx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
MULTI IN + PLⅡx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×

Button	Note	Input signals															
				DTS				DOLBY DIGITAL					DVD-AUDIO			Super Audio CD	
Surround Mode		ANALOG	LINEAR PCM	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1ch)	DOLBY DIGITAL (3, 4, 5ch)	DOLBY DIGITAL (2ch)	DVD-Audio (multi ch)	DVD-Audio (2ch)	176.4/ 192kHz	DSD (multi ch)	DSD (2ch)
DIRECT																	
DIRECT		○	○	○	○	○	○	○	○	○	○	○	×	○	○	×	×
DSD DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH DIRECT		×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
M DIRECT + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
M DIRECT + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
PURE DIRECT																	
PURE DIRECT		○	○	○	○	○	○	○	○	○	○	○	×	○	○	×	×
DSD PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI PURE		×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
M PURE D + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
M PURE D + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	○	×	×	○	×
DSP SIMULATION																	
WIDE SCREEN		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SUPER STADIUM		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROCK ARENA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
JAZZ CLUB		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
CLASSIC CONCERT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONO MOVIE		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIDEO GAME		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MATRIX		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
7CH STEREO	*3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO																	
STEREO		●	●	○	○	○	○	○	○	○	○	○	○	●	●	○	●

● : Mode selectable in initial status
◎ : Mode fixed when AFDM is ON
○ : Selectable mode
× : Non-selectable mode

NOTE :

*1: This mode is not available when the Surround Back speaker setup is set to “None”.
*2: This mode is not available when the Surround Back speaker setup is set to “1spkr” or “None”.
*3: If the Surround Back speaker setup is set to “None”, then “5CH STEREO” is displayed.
*4: For input signals other than 2-channel signals, this mode cannot be selected when surround back speaker is set to “1spkr” or “None”.

Relationship between the video input signal and monitor output according to the video convert mode settings

Video convert mode	Input signals				MONITOR OUT			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
AUTO	×	×	×	×	×	×	×	×
	×	×	×	○	VIDEO	VIDEO	VIDEO	VIDEO
	×	×	○	×	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	×	×	○	○	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	×	○ (1080p)	×	×	×	COMPONENT	×	×
	×	○ (480p ~ 720p)	×	×	COMPONENT	COMPONENT	×	×
	×	○ (480i/576i)	×	×	COMPONENT	COMPONENT	COMPONENT	COMPONENT
	×	○ (1080p)	×	○	VIDEO	COMPONENT ✳1	VIDEO	VIDEO
	×	○ (480p ~ 720p)	×	○	COMPONENT ✳1	COMPONENT ✳1	× ✳3	VIDEO
	×	○ (480i/576i)	×	○	COMPONENT ✳1	COMPONENT ✳1	COMPONENT	VIDEO
	×	○ (1080p)	○	×	S-VIDEO	COMPONENT ✳2	S-VIDEO	S-VIDEO
	×	○ (480p ~ 720p)	○	×	COMPONENT ✳2	COMPONENT ✳2	S-VIDEO	× ✳4
	×	○ (480i/576i)	○	×	COMPONENT ✳2	COMPONENT ✳2	S-VIDEO	COMPONENT ✳4
	×	○ (1080p)	○	○	S-VIDEO	COMPONENT ✳2	S-VIDEO	S-VIDEO
	×	○ (480p ~ 720p)	○	○	COMPONENT ✳2	COMPONENT ✳2	S-VIDEO	VIDEO ✳4
	×	○ (480i/576i)	○	○	COMPONENT ✳2	COMPONENT ✳2	S-VIDEO	VIDEO ✳4
	○	×	×	×	HDMI	×	×	×
	○	×	×	○	HDMI ✳1	VIDEO	VIDEO	VIDEO
	○	×	○	×	HDMI ✳2	S-VIDEO	S-VIDEO	S-VIDEO
	○	×	○	○	HDMI ✳2	S-VIDEO	S-VIDEO	S-VIDEO
	○	○ (Other than 480i/576i)	×	×	HDMI	COMPONENT	×	×
	○	○ (480i/576i)	×	×	HDMI	COMPONENT	COMPONENT	COMPONENT
	○	○ (Other than 480i/576i)	×	○	HDMI ✳1	COMPONENT ✳1	× ✳3	VIDEO
	○	○ (480i/576i)	×	○	HDMI ✳1	COMPONENT ✳1	COMPONENT	VIDEO
	○	○ (Other than 480i/576i)	○	×	HDMI ✳2	COMPONENT ✳2	S-VIDEO	× ✳4
	○	○ (480i/576i)	○	×	HDMI ✳2	COMPONENT ✳2	S-VIDEO	COMPONENT ✳4
	○	○ (Other than 480i/576i)	○	○	HDMI ✳2	COMPONENT ✳2	S-VIDEO	VIDEO ✳4
	○	○ (480i/576i)	○	○	HDMI ✳2	COMPONENT ✳2	S-VIDEO	VIDEO ✳4

480p ~ 720p : 480p/576p/1080i/720p

Video convert mode	Input signals				MONITOR OUT			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
S-VIDEO	×	×	×	×	×	×	×	×
	×	×	×	○	×	×	×	×
	×	×	○	×	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	×	×	○	○	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	×	○	×	×	×	×	×	×
	×	○	×	○	×	×	×	×
	×	○	○	×	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	×	○	○	○	S-VIDEO	S-VIDEO	S-VIDEO	S-VIDEO
	○	×	×	×	× ✳5	×	×	×
	○	×	×	○	× ✳5	×	×	×
	○	×	○	×	S-VIDEO ✳5	S-VIDEO	S-VIDEO	S-VIDEO
	○	×	○	○	S-VIDEO ✳5	S-VIDEO	S-VIDEO	S-VIDEO
	○	○	×	×	× ✳5	×	×	×
	○	○	×	○	× ✳5	×	×	×
	○	○	○	×	S-VIDEO ✳5	S-VIDEO	S-VIDEO	S-VIDEO
	○	○	○	○	S-VIDEO ✳5	S-VIDEO	S-VIDEO	S-VIDEO

Video convert mode	Input signals				MONITOR OUT			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
VIDEO	×	×	×	×	×	×	×	×
	×	×	×	○	VIDEO	VIDEO	VIDEO	VIDEO
	×	×	○	×	×	×	×	×
	×	×	○	○	VIDEO	VIDEO	VIDEO	VIDEO
	×	○	×	×	×	×	×	×
	×	○	×	○	VIDEO	VIDEO	VIDEO	VIDEO
	×	○	○	×	×	×	×	×
	×	○	○	○	VIDEO	VIDEO	VIDEO	VIDEO
	○	×	×	×	× ✳5	×	×	×
	○	×	×	○	VIDEO ✳5	VIDEO	VIDEO	VIDEO
	○	×	○	×	× ✳5	×	×	×
	○	×	○	○	VIDEO ✳5	VIDEO	VIDEO	VIDEO
	○	○	×	×	× ✳5	×	×	×
	○	○	×	○	VIDEO ✳5	VIDEO	VIDEO	VIDEO
	○	○	○	×	× ✳5	×	×	×
	○	○	○	○	VIDEO ✳5	VIDEO	VIDEO	VIDEO

Video convert mode	Input signals				MONITOR OUT			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
COMPONENT	×	×	×	×	×	×	×	×
	×	×	×	O	×	×	×	×
	×	×	O	×	×	×	×	×
	×	×	O	O	×	×	×	×
	×	O (1080p)	×	×	×	COMPONENT	×	×
	×	O (480p ~ 720p)	×	×	COMPONENT	COMPONENT	×	×
	×	O (480i/576i)	×	×	COMPONENT	COMPONENT	COMPONENT	COMPONENT
	×	O (1080p)	×	O	×	COMPONENT	×	×
	×	O (480p ~ 720p)	×	O	COMPONENT	COMPONENT	×	×
	×	O (480i/576i)	×	O	COMPONENT	COMPONENT	COMPONENT	COMPONENT
	×	O (1080p)	O	×	×	COMPONENT	×	×
	×	O (480p ~ 720p)	O	×	COMPONENT	COMPONENT	×	×
	×	O (480i/576i)	O	×	COMPONENT	COMPONENT	COMPONENT	COMPONENT
	×	O (1080p)	O	O	×	COMPONENT	×	×
	×	O (480p ~ 720p)	O	O	COMPONENT	COMPONENT	×	×
	×	O (480i/576i)	O	O	COMPONENT	COMPONENT	COMPONENT	COMPONENT
	O	×	×	×	× ✳5	×	×	×
	O	×	×	O	× ✳5	×	×	×
	O	×	O	×	× ✳5	×	×	×
	O	×	O	O	× ✳5	×	×	×
	O	O (1080p)	×	×	× ✳5	COMPONENT	×	×
	O	O (480p ~ 720p)	×	×	COMPONENT ✳5	COMPONENT	×	×
	O	O (480i/576i)	×	×	COMPONENT ✳5	COMPONENT	COMPONENT	COMPONENT
	O	O (1080p)	×	O	× ✳5	COMPONENT	×	×
	O	O (480p ~ 720p)	×	O	COMPONENT ✳5	COMPONENT	×	×
	O	O (480i/576i)	×	O	COMPONENT ✳5	COMPONENT	COMPONENT	COMPONENT
	O	O (1080p)	O	×	× ✳5	COMPONENT	×	×
	O	O (480p ~ 720p)	O	×	COMPONENT ✳5	COMPONENT	×	×
	O	O (480i/576i)	O	×	COMPONENT ✳5	COMPONENT	COMPONENT	COMPONENT
	O	O (1080p)	O	O	× ✳5	COMPONENT	×	×
	O	O (480p ~ 720p)	O	O	COMPONENT ✳5	COMPONENT	×	×
	O	O (480i/576i)	O	O	COMPONENT ✳5	COMPONENT	COMPONENT	COMPONENT

480p ~ 720p : 480p/576p/1080i/720p

Video convert mode	S-VIDEO MONITOR OUT	Input signals				MONITOR OUT			
		HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
OFF	–	×	×	×	×	×	×	×	×
	–	×	×	×	O	×	×	×	VIDEO
	–	×	×	O	×	×	×	S-VIDEO	×
	Used	×	×	O	O	×	×	S-VIDEO	VIDEO ✳2
	Not used	×	×	O	O	×	×	–	VIDEO
	–	×	O	×	×	×	COMPONENT	×	×
	–	×	O	×	O	×	COMPONENT ✳1	×	VIDEO
	–	×	O	O	×	×	COMPONENT ✳2	S-VIDEO	×
	Used	×	O	O	O	×	COMPONENT ✳2	S-VIDEO	VIDEO ✳2
	Not used	×	O	O	O	×	COMPONENT ✳1	–	VIDEO
	–	O	×	×	×	HDMI	×	×	×
	–	O	×	×	O	HDMI	×	×	VIDEO
	–	O	×	O	×	HDMI	×	S-VIDEO	×
	Used	O	×	O	O	HDMI	×	S-VIDEO	VIDEO ✳2
	Not used	O	×	O	O	HDMI	×	–	VIDEO
	–	O	O	×	×	HDMI	COMPONENT	×	×
	–	O	O	×	O	HDMI	COMPONENT ✳1	×	VIDEO
	–	O	O	O	×	HDMI	COMPONENT ✳2	S-VIDEO	×
	Used	O	O	O	O	HDMI	COMPONENT ✳2	S-VIDEO	VIDEO ✳2
	Not used	O	O	O	O	HDMI	COMPONENT ✳1	–	VIDEO

O : Signal input
× : No signal

- The MAIN ZONE video conversion function is compatible with the following format: NTSC, PAL, SECAM, NTSC4.43, PAL-N, PAL-M and PAL-60.
- When SECAM signals of video input are up-converted, the signals are output in PAL format from the S-Video connector.
- Signals up-converted to HDMI are output to the HDMI monitor with the resolution at which they are input. Note that resolutions of 1080p are not handled.

× : Not output
✳1 : On screen display superimposed on video signal and output.
✳2 : On screen display superimposed on S-Video signal and output.
✳3 : Video signals are output when the analog to HDMI convert function is set to "OFF".
✳4 : S-Video signals are output when the analog to HDMI convert function is set to "OFF".
✳5 : HDMI signals are output when the analog to HDMI convert function is set to "OFF".
COMPONENT : On screen display only displayed for **SETUP**, **SURROUND PARAMETER** and **ON SCREEN** buttons.
HDMI : The on-screen display is displayed when the analog to HDMI convert function is set to "ON".
: Video signals are not output when the analog to HDMI convert function is set to "OFF".

Specifications

■ Audio section

- **Power amplifier**

Rated output:
Front:
140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
165 W + 165 W (6 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
Center:
140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
165W (6 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
Surround (A, B):
140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
165 W + 165 W (6 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
Surround Back:
140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
165 W + 165 W (6 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)

Dynamic power:
180 W x 2 ch (8 Ω/ohms)
280 W x 2 ch (4 Ω/ohms)

Output terminals:

Front, Center, Surr. Back		6 ~ 16 Ω/ohms
Surround:	A or B	6 ~ 16 Ω/ohms
	A + B	8 ~ 16 Ω/ohms

- **Analog**

Input sensitivity / input impedance: 200 mV / 47 kΩ/kohms
Frequency response: 10 Hz ~ 100 kHz: +0, –3 dB (DIRECT mode)
S/N: 102 dB (DIRECT mode)
Distortion: 0.005% (20 Hz ~ 20 kHz) (DIRECT mode)
Rated output: 1.2 V

- **Digital**

D/A output:
Rated output — 2 V (at 0 dB playback)
Total harmonic distortion — 0.005 % (1 kHz, at 0 dB)
S/N ratio — 110 dB
Dynamic range — 108 dB

Digital input: Format — Digital audio interface

- **Phono equalizer (PHONO input — REC OUT)**

Input sensitivity: 2.5 mV
RIAA deviation: ±1 dB (20 Hz to 20 kHz)
S/N: 74 dB (A weighting, with 5 mV input)
Rated output / Maximum output: 150 mV / 8 V
Distortion factor: 0.03% (1 kHz, 3 V)

■ Video section

- **Standard video terminals**

Input / output level and impedance: 1 Vp-p, 75 Ω/ohms
Frequency response: 5 Hz ~ 10 MHz — +0, –3 dB

- **S-Video terminals**

Input / output level and impedance:
Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
C (color) signal — 0.286 Vp-p, 75 Ω/ohms

Frequency response: 5 Hz ~ 10 MHz — +0, –3 dB

- **Color component video terminal**

Input / output level and impedance:
Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
P_B/C_B signal — 0.7 Vp-p, 75 Ω/ohms
P_R/C_R signal — 0.7Vp-p, 75 Ω/ohms

Frequency response: 5 Hz ~ 100 MHz — +0, –3 dB

■ Tuner section

		[FM] (note: µV at 75 Ω/ohms, 0 dBf = 1 x 10^{-15} W)	[AM]
Receiving Range:		87.5 MHz ~ 107.9 MHz	520 kHz ~ 1710 kHz
Usable Sensitivity:		1.0 µV (11.2 dBf)	18 µV
50 dB Quieting Sensitivity:	MONO	1.6 µV (15.3 dBf)	
	STEREO	23 µV (38.5 dBf)	
S/N (IHF-A):	MONO	77 dB	50 dB
	STEREO	72 dB	
Total Harmonic Distortion (at 1 kHz):	MONO	0.15%	
	STEREO	0.3%	

■ General

Power supply:	AC 120 V, 60 Hz
Power consumption:	10.6 A
Maximum external dimensions:	434 (W) x 178 (H) x 500 (D) mm (17-3/32” x 7-0” x 19-11/16”)
Mass:	23.8 kg (52 lbs 8 oz)

■ Remote control unit (RC-995)

Batteries:	R03/AAA Type (four batteries)
External dimensions:	72 (W) x 238 (H) x 25.5 (D) mm (2-53/64” x 9-3/8” x 1-0”)
Mass:	225 g (Approx. 8 oz) (including batteries)

* For purposes of improvement, specifications and design are subject to change without notice.

MEMO:

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